Vol. XXXVI. No. 2 June, 1924

THE WILSON BULLETIN

OFFICIAL ORGAN OF

The Wilson Ornithological Club and The Nebraska Ornithologists Union

Entered as Second-class Matter, July 13, 1916, at the Post Office at Oberlin, Ohio, under Act of March 3, 1879.

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Published quarterly, March, June, September and December, as the official organ of the Wilson Ornithological Club and the Nebraska Ornithologists' Union, and edited by Dr. Lynds Jones, assisted by a board of five members.

All articles and communications intended for publication and all books and publications for notice, should be sent to Dr. Lynds Jones, Spear Laboratory, Oberlin, Ohio.

The subscription price is $1.50 a year, including postage, strictly in advance. Single numbers, 50 cents. Free to all members not in arrears for dues.

Subscriptions should be addressed to the Treasurer, and applications for membership to the Secretary.

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Published Quarterly at Oberlin, Ohio

THE WILSON BULLETIN

A QUARTERLY JOURNAL OF ORNITHOLOGY

VOL. XXXVI JUNE, 1924 NO. 2

OLD SERIES VOL. XXXVI. NEW SERIES VOL. XXXI.

THE NEW BROWN PELICAN ROOKERY ON THE FLORIDA EAST COAST

R. J. LONGSTREET

SECRETARY, HALIFAX RIVER BIRD CLUB

DAYTONA BEACH, FLORIDA

For more than a century, the Brown Pelican rookery on Pelican Island in the Indian River, near Sebastian, has been the Mecca of ornithologists and bird lovers. The island was made a federal reservation some years ago and placed under the protection of a warden. This breeding place was one of the sights of Florida and one of the best known rookeries in North America.

The Brown Pelican has incurred the hatred of the fishermen, who falsely charge him with eating food fish and thereby harming the fishing industry. During the World War, a determined effort was made to remove protection from this bird and subject him again to the persecution of hunters and others who find sport in killing defenseless creatures. The prompt and energetic action of the Florida Audubon Society was able to check this attempt, so that the Pelican yet enjoys what protection the law may give him.

The prejudice of the fishermen was not abated, however, and two or three years ago the island was raided at night and a large number of birds were killed. Whether or not this was the reason, the fact remains that last fall the east coast Brown Pelicans, as a body, deserted their ancestral breeding place and moved north to the south end of Mosquito Lagoon, about fifty miles south of Daytona. Here they selected a mangrove island which had been the site of a considerable colony of Ward's Herons (the Florida Great Blue), and as is their habit, began to breed in December.

The site of the new rookery is an island about half a mile in length, shaped like a crescent, not over five hundred feet wide

at its center. It is about two miles west of the Atlantic Ocean, among the other mangrove islands that dot the southern expanse of the lagoon. The outer shore is wooded with mangrove, the inner shore is sandy or marshy. In addition to the mangrove, the island bears not a little Spanish Bayonet (Yucca) and some palmetto scrub.

This part of the lagoon is a favorite ground for the fishermen of neighboring regions, and thus the new rookery was soon discovered. The Pelicans had left a federal reservation to found a new home in an out-of-the-way place where there was no warden nor any protection for them. The consequence was that when the young birds were about half grown and wholly unable to fly, certain unknown parties, probably ignorant fishermen, descended upon the colony with clubs and shot-guns and slaughtered them without let or hindrance.

About three weeks after this outrage, a party from the Halifax River Bird Club made a trip to the rookery for purposes of investigation. It was found that the rookery was on the western half of the island. The nearest approach is from the east. The waters are very shallow, so that it was necessary to make the last two or three hundred yards in a flat-bottomed skiff.

Passing through the mangrove and marsh-grass, down to the center of the island, we first saw signs of the slaughter. Here and there lay a dead and half-decayed Pelican. To the left, in the water, half-enclosed by the points of the crescent-shaped island, was a flock of two or three hundred adult birds, and a few more were descried resting on the shore at the west end.

The western half of the island was a charnel house. The bodies of young Pelicans, together with not a few of the adult birds, lay thickly scattered over all that part of the island where the birds had nested. An effort to count the bodies was made, and the consensus of opinion was that between 1,500 and 2,000 birds had been killed. The young birds remaining alive would not exceed 400 in number. Many eggs were scattered about on the ground, and dismembered nests were lying here and there. The entire scene was one of rapine and slaughter, depressing in the extreme. It passess comprehension that human beings would wreak such merciless destruction upon helpless and harmless birds.

The condition of the bodies was such that it was impossible to determine in what manner the birds had been killed, but

local fishermen told us that most of the work was done with clubs. I picked up several shot-gun shells, of the Winchester repeater variety, which would indicate that some, probably the adult birds, had been dispatched by gun-fire.

The young birds that had escaped were wandering about in disconsolate groups, and kept at a respectful distance. A few would permit of close approach, but snapped their huge bills viciously to express their disapproval of the intruders. If pressed too closely, they would make their way out into the shallow water, where they flopped and swam to a safe distance. Not a few young birds were found with broken wings and legs and otherwise injured.

The Pelican nests for the most part were in the mangrove bushes, but some were placed on the ground, and, most interesting of all, several were situated in clumps of Spanish bayonet. Some young birds were seen scrambling about among the sharp-pointed leaves of the yucca, and undoubtedly some have been wounded and perhaps killed in that strange and inhospitable environment.

An interesting discovery was that of a Ward's Heron's nest, superimposed upon an abandoned Pelican nest, placed in a yucca clump. There were two fledglings and one addled egg in this adopted home. This is the first instance that has come to my attention of a Ward's Heron choosing an old Pelican nest in which to rear its young.

The other birds seen on the island were Black and Turkey Vultures, feeding upon the bodies of dead Pelicans, several Red-winged Blackbirds, a small flock of Boat-tailed Grackles, and several Florida Yellow-throats and Myrtle Warblers. Florida Cormorants were common out in the lagoon, together with some Herring Gulls, Royal Terns, a few Horned and Pied-billed Grebes, and thousands of Lesser Scaup Ducks.

The raiding of this new rookery has been reported to the federal warden and the Biological Survey, and to the National Association of Audubon Societies. It is hoped that the United States government will take over the island, or, better still, the southern portion of the lagoon, as a bird reservation. It is too late to save the young Pelicans of 1924, but if the old birds return to their home next fall, a federal warden on the spot, armed with Springfield rifles and considerable courage, could prevent the recurrence of what has taken place this year.

The charge that Brown Pelicans eat food fish is utterly without foundation. Dr. E. W. Nelson, Chief of the Biological Survey, states that after carefully inspecting the breeding grounds of both east and west Florida and examining hundreds of fish dropped by the Pelicans, he found that almost without exception the fish caught to be menhaden and grass minnows, species that are useless for human food, and that not one fish so examined was of any commercial value. Dr. Frank M. Chapman points out that the case is not proved against the Pelican, because fish were more numerous on the east coast when Pelicans were more abundant than they are today. Pelicans feed chiefly on inedible fish or fish that are too small to be marketed.

MIGRATION NOTES FROM STATE COLLEGE CENTER COUNTY, PENNSYLVANIA

THOS. D. BURLEIGH

The following notes were taken during three and a half years spent at the Pennsylvania State College, and cover the spring and fall migrations from September, 1914, through June, 1917, and the spring migration of 1919. No attempt will be made to describe in any detail the topography or geographical situation of this locality for this has already been ably done by Mr. Richard C. Harlow in papers that he has published concerning the breeding birds of Center County. Avoiding any useless repetition it is necessary to state merely that as its name indicates Center County lies in the geographic center of the State, and is a rough mountainous county lying will within the range of the Alleghenies that divide the State at this point. This range of mountains runs approximately north and south and has unquestionably a distinct bearing on the movement of the birds to and from their summer homes. That many of them follow these ridges in their long journeys is borne out by the early dates at which certain species appear in the spring, and by the late appearance of many of them in the fall, dates both earlier and later than recorded for these same species both farther north and farther south. River valleys undoubtedly influence migrations but my limited experience would indicate that mountain ranges are of far more importance in guiding birds at this time. Little I believe has been published concerning migration data for this part of the State.

As a matter of convenience the birds have been divided into four groups, and the data so arranged as to fall within these groups.

I. Resident Species

1. Ruffed Grouse—*Bonasa umbellus umbellus.*
2. Wild Turkey—*Meleagris gallopavo silvestris.*
3. Cooper's Hawk—*Accipiter cooperi.*
4. Sparrow Hawk—*Falco sparverius sparverius.*
5. Screech Owl—*Otus asio asio.*
6. Great Horned Owl—*Bubo virginianus virginianus.*
7. Hairy Woodpecker—*Dryobates villosus villosus.*
8. Downy Woodpecker—*Dryobates pubescens medianus.*
9. Northern Pileated Woodpecker—*Phlœotomus pileatus abieticola.*
10. Red-headed Woodpecker—*Melanerpes erythrocephalus.*
11. Prairie Horned Lark—*Octocoris alpestris praticola.*
12. Blue Jay—*Cyanocitta cristata cristata.*
13. Northern Raven—*Corvus corax principalis.*
14. Crow—*Corvus brachyrhynchos brachyrhynchos.*
15. Starling—*Sturnus vulgaris.*
16. Goldfinch—*Astragalinus tristis tristis.*
17. English Sparrow—*Passer domesticus.*
18. Cardinal—*Cardinalis cardinalis cardinalis.*
19. Cedar Waxwing—*Bombycilla cedrorum.*
20. White-breasted Nuthatch—*Sitta carolinensis carolinensis.*
21. Tufted Titmouse—*Bœolophus bicolor.*
22. Chickadee—*Penthestes atricapillus atricapillus.*

These species occur in Center County throughout the year, and are equally common during the winter and during the summer months. There is possibly a general shifting south, but individually there is little variation at any time.

The Ruffed Grouse breeds well back in the mountains but has a tendency to wander into the open valleys late in the fall and evidently retains to a slight extent the desire to migrate.

The Red-headed Woodpecker winters regularly and there are certain stretches of woods where it can always be found during the winter months, but it is the one exception to the other species listed in that at least half of them disappear late in the fall and it is early April before they are abundant again.

Each fall there is a distinct migration of Blue Jays. On October 9, 1915, and again on September 28, 1916, these birds were much in evidence the entire day, small flocks of varying size being seen, flying by overhead or silently feeding in the scattered short stretches of woods.

The first Starlings were seen in Center County February 29,

1916, four being found feeding in a stretch of underbrush bordering an open field. None were then recorded until that fall when three were seen November 7 in the top of a tree at the edge of a field. They gradually increased in numbers during the winter and by early March, 1917, were quite plentiful. They nested here for the first time that spring, and are now abundant in this part of the State throughout the year.

II. Breeding Birds

1. Pied-billed Grebe—*Podilymbus podiceps.*
   Earliest, April 17, 1917; latest, Nov. 18, 1916.
2. Great Blue Heron—*Ardea herodias herodias.*
   Earliest, March 30, 1916; latest, Oct. 10, 1914. Status as a breeding bird uncertain.
3. Green Heron—*Butorides virescens virescens.*
   Earliest, April 24, 1917; average date, April 26; latest, Oct. 3, 1916.
4. Virginia Rail—*Rallus virginianus.*
   Earliest, April 19, 1916; in 1917 the first bird seen April 21; latest, Sept. 21, 1916.
5. Sora Rail—*Porzana carolina.*
   April 26, 1916, May 1, 1917; latest, Oct. 25, 1916.
6. Woodcock—*Philohela minor.*
   First seen March 25, 1917, March 22, 1919.
7. Upland Plover—*Bartramia longicauda.*
   First seen April 24, 1915, April 27, 1916, April 21, 1917, April 11, 1919.
8. Spotted Sandpiper—*Actitis macularia.*
   Earliest, April 15, 1916; average date, April 20.
9. Killdeer—*Oxyechus vociferus.*
   Earliest, March 2, 1917; average, March 9; birds plentiful by the latter part of the month; latest record, Nov. 24, 1914; average, Nov. 18; each year two birds winter about a small pond that is fed by a warm spring and never freezes over.
10. Mourning Dove—*Zenaidura macroura carolinensis.*
    Earliest, March 12, 1917; average, March 20; latest, Oct. 22, 1916; three records for occurrence in the winter, single birds seen Dec. 3, 1914, Feb. 13, 1916, and Jan. 25, 1917.
11. Turkey Vulture—*Cathartes aura septentrionalis.*
    Earliest, March 4, 1919; average, March 22; latest, Nov. 2, 1916.
12. Marsh Hawk—*Circus hudsonius.*
    Uncommon, and irregular in its arrival and departure; earliest, Feb. 12, 1916; latest, Dec. 5, 1916.
13. Broad-winged Hawk—*Buteo platypterus.*
    Earliest, April 18, 1919; a distinct diurnal migration of these birds was observed April 20, 1917, when for several minutes early in the afternoon they soared by high overhead in a loose, straggling line; at times but one or two would be in sight, while again a fairly compact group of seven or eight would appear; in all, forty-five were counted.

14. Yellow-billed Cuckoo—*Coccyzus americanus americanus.*
Earliest, May 6, 1919; latest, Sept. 23, 1915; birds usually plentiful by the latter part of May.

15. Belted Kingfisher—*Ceryle alcyon alcyon.*
Earliest, March 28, 1916; average, April 3, latest, Nov. 13, 1915; one winter record, two birds seen Jan. 20, 1917.

16. Northern Flicker—*Colaptes auratus luteus.*
Earliest, March 13, 1915; average, March 26; latest, Nov. 19, 1914; two winter records, two birds Feb. 1, 1916, and one bird, Jan. 14, 1917.

17. Whip-poor-will—*Antrostomus vociferus vociferus.*
Earliest, April 26, 1915; average, April 29; latest, Oct. 10, 1915.

18. Nighthawk—*Chordeiles virginianus virginianus.*
Earliest, May 8, 1915; latest, Oct. 4, 1915; scarce as a breeding bird.

19. Chimney Swift—*Chætura pelagica.*
Earliest, April 14, 1916; average, April 19; latest, Oct. 2, 1915; average date for departure, Sept. 25.

20. Ruby-throated Hummingbird—*Archilochus colubris.*
Earliest, May 13, 1915; latest, Oct. 2, 1915.

21. Kingbird—*Tyrannus tyrannus.*
Earliest, April 22, 1917; average, April 30; no records for departure in the fall, the birds invariably being gone by the time I reached State College the middle of September.

22. Crested Flycatcher—*Myiarchus crinitus.*
Earliest, May 2, 1915; average, May 4; latest, Sept. 17, 1914.

23. Phœbe—*Sayornis phœbe.*
Earliest, March 22, 1917; average, March 25; latest, Oct. 21, 1916.

24. Wood Pewee—*Myiochanes virens.*
Earliest, May 8, 1916; average, May 11; latest, Oct. 3, 1916.

25. Least Flycatcher—*Empidonax minimus.*
Earliest, April 30, 1916; average, May 4; latest, Sept. 22, 1916.

26. Bobolink—*Dolichonyx oryzivorus.*
Earliest, May 4, 1916; average, May 7.

27. Cowbird—*Molothrus ater ater.*
Earliest, March 30, 1916; average, April 3; latest, Nov. 2, 1916; average date for departure, Oct. 26.

28. Red-winged Blackbird—*Agelaius phœniceus phœniceus.*
Earliest, Feb. 26, 1917; average, March 4; latest, Nov. 14, 1916; average date for departure, Oct. 31.

29. Meadowlark—*Sturnella magna magna.*
Earliest, Feb. 13, 1916, a flock of eight birds being seen that day; average, Feb. 27; latest, Nov. 13, 1915; winter records, Jan. 23, 1915, Dec. 5, 1916, Jan. 20, 1917; a few birds seemingly winter each year.

30. Orchard Oriole—*Icterus spurius.*
Earliest, May 6, 1916, May 6, 1919.

31. Baltimore Oriole—*Icterus galbula.*
Earliest, April 29, 1915; average, May 2; latest, Sept. 16, 1915.
Earliest, Feb. 28, 1917; average, March 4; latest, Nov. 21, 1915;

average date for departure, Nov. 14; one winter record, a single bird, 1919.

32. Purple Grackle—*Quiscalus quiscula quiscula.*

33. Vesper Sparrow—*Poœcetes gramineus gramineus.*
Earliest, March 24, 1917; average, March 28; latest, Nov. 17, 1914; average date for departure, Oct. 31.

34. Savannah Sparrow—*Passerculus sandwichensis savanna.*
Records for arrival in the spring: March 25, 1916, March 27, 1917, March 26, 1919; latest record for the year, Oct. 16, 1915.

35. Grasshopper Sparrow—*Ammondramus savannarum australis.*
Earliest, April 8, 1919; average, April 13, latest, Oct. 23, 1916; always plentiful by the middle of April.

36. Henslow's Sparrow—*Passerherbulus henslowi henslowi.*
Dates for arrival in the spring: April 28, 1917, and May 4, 1919; known to breed in one locality only.

37. Chipping Sparrow—*Spizella passerina passerina.*
Earliest, April 1, 1916; average, April 7; usually plentiful by the 12th; latest, Nov. 4, 1916; average date for departure, Oct. 31.

38. Field Sparrow—*Spizella pusilla pusilla.*
Earliest, March 26, 1917; average, April 3; plentiful by the 5th or 6th; latest, Oct. 30, 1914; average date for departure, Oct. 26.

39. Song Sparrow—*Melospiza melodia melodia.*
Earliest, Feb. 14, 1915; average, Feb. 28; usually plentiful by the 16th of March; latest record for the fall migration Nov. 11, 1915; a few winter each year, single birds being seen at intervals of two or three weeks.

40. Towhee—*Pipilo erythrophthalmus erythrophthalmus.*
Earliest, April 11, 1919; average, April 24; latest, Nov. 14, 1915; average date for departure Nov. 11.

41. Indigo Bunting—*Passerina cyanea.*
Dates for arrival: May 8, 1913, May 6, 1916, and May 5, 1919; birds plentiful by the 12th; latest, Oct. 3, 1915.

42. Scarlet Tanager—*Piranga erythromelas.*
Earliest, May 3, 1919; average, May 6; one record for departure in the fall—Sept. 14, 1914.

43. Cliff Swallow—*Petrochelidon lunifrons lunifrons.*
Earliest, April 17, 1916; average, May 1; latest, Oct. 3, 1916.

44. Barn Swallow—*Hirundo erythrogastra.*
Earliest, April 6, 1916; two days later, on the 8th, there was a heavy snow storm and it seemed unnatural that day to see two of these birds feeding over an open pond during this driving snow, and with several inches of snow already on the ground; one naturally comes to associate these birds with warm weather, and not with blizzards; average, April 10; latest, Oct. 1, 1916; average date for departure, Sept. 26.

45. Tree Swallow—*Iridoprocne bicolor.*
Earliest, April 9, 1919; average, April 17; latest, Oct. 22, 1916.

46. Rough-winged Swallow—*Stelgidopteryx serripennis.*

Earliest, April 17, 1915; birds plentiful by the latter part of the month.

47. Red-eyed Vireo—*Vireosylva olivacea.*
Earliest, May 7, 1915; latest, Sept. 27, 1914.

48. Warbling Vireo—*Vireosylva gilva gilva.*
Earliest, April 28, 1915; average, May 3; latest, Sept. 25, 1915.

49. Yellow-throated Vireo—*Lanivireo flavifrons.*
Earliest, May 1, 1917; average, May 8; latest, Sept. 14, 1915.

50. Blue-headed Vireo—*Lanivireo solitarius solitarius.*
Earliest, April 11, 1915; average, April 20; latest, Oct. 19, 1916; this bird a very scare breeder here.

51. Black and White Warbler—*Mniotilta varia.*
Earliest, April 21, 1917; average, April 26; latest, Sept. 29, 1916.

52. Worm-eating Warbler—*Helmitheros vermivorus.*
Earliest, May 4, 1919; average, May 8.

53. Golden-winged Warbler—*Vermivora chrysotera.*
Earliest, May 4, 1919.

54. Northern Parula Warbler—*Compsothlypis americana usneæ.*
Earliest, April 28, 1915; average, May 4.

55. Yellow Warbler—*Dendroidea æstiva æstiva.*
Earliest, April 24, 1915; average, April 27.

56. Black-throated Blue Warbler—*Dendroica cærulescens cærulescens.*
Earliest, April 30, 1916; average, May 6; latest, Oct. 20, 1914; average date for departure, Oct. 16.

57. Chestnut-sided Warbler—*Dendroica pennsylvanica.*
Dates of arrival, May 2, 1915, May 3, 1916, May 3, 1917, May 4, 1919.

58. Blackburnian Warbler—*Dendroica fusca.*
Earliest, April 26, 1916; latest, Oct. 11, 1914.

59. Black-throated Green Warbler—*Dendroica virens.*
Earliest, April 21, 1917; average, April 27; latest, Oct. 18, 1914; average date of departure, Oct. 15.

60. Pine Warbler—*Dendroica vigorsi.*
Earliest, April 18, 1917.

61. Oven-bird—*Seiurus aurocapillus.*
Earliest, April 28, 1915; average, April 30; latest, Oct. 18, 1914; average date of departure, Oct. 15.

62. Louisiana Water-Thrush—*Seiurus motacilla.*
Earliest, April 13, 1919; average, April 18.

63. Maryland Yellow-throat—*Geothlypis trichas trichas.*
Earliest, May 2, 1916; average, May 5; latest, Oct. 10, 1915; average date of departure, Oct. 8.

64. Yellow-breasted Chat—*Icteria virens virens.*
Earliest, May 4, 1919; average, May 8.

65. Hooded Warbler—*Wilsonia citrina.*
Earliest, May 1, 1915; average, May 4; latest, Sept. 19, 1915.

66. Canada Warbler—*Wilsonia canadensis.*
Earliest, May 5, 1919; average, May 10; latest, Sept. 19, 1915.

67. Redstart—*Setophaga ruticilla.*
Earliest, April 30, 1916; latest, Oct. 4, 1916; average, Sept. 18; birds breed very sparingly

68. Catbird—*Dumetella carolinensis.*
Earliest, April 30, 1916; average, May 2; latest, Oct. 16, 1915; average date of departure, Oct. 7.

69. Brown Thrasher—*Toxostoma rufum.*
Earliest, April 18, 1917; average, April 20; latest, Oct. 17, 1915; average date of departure, Sept. 29.

70. Bewick's Wren—*Thryomanes bewicki bewicki.*
Earliest, April 1, 1917; average, April 10.

71. House Wren—*Troglodytes aëdon aëdon.*
Earliest, April 19, 1917; average, April 26; plentiful by the latter part of the month; latest, Oct. 11, 1914; average date of departure, Oct. 10.

72. Wood Thrush—*Hylocichla mustelina.*
Earliest, May 4, 1919; the birds breed only in the mountains some distance from the town, never in the open valley, and as a result my migration records are meager.

73. Robin—*Planesticus migratorius migratorius.*
Earliest, Feb. 22, 1915; average, Feb. 25; usually not plentiful before the middle of March; latest, Nov. 23, 1915; average date for departure, Nov. 19; probable winter records, single birds seen Dec. 10, 1914, Feb. 13, 1916, and Feb. 4, 1917.

74. Bluebird—*Sialis sialis sialis.*
Earliest, Feb. 21, 1915; average, Feb. 26; usually plentiful by the middle of March, latest. Nov. 14, 1915; average date for departure, Nov. 9; two winter records, single birds seen Jan. 27, 1915, and Jan. 30, 1916.

The fact that each year I was absent from State College from the middle of June until the middle of September made me miss the opportunity of checking up on those birds which disappear in August. Such species as the King bird, Orchard Oriole, Bobolink, Rough-winged Swallow, and many of the warblers are invariably gone by the first of September.

III. Migrants

1. Horned Grebe—*Colymbus auritus.*
A spring migrant only, but fairly plentiful then for possibly a month; earliest, April 2, 1917; latest, May 14, 1917; average date for arrival April 15; for departure, May 1.

2. Loon—*Gavia immer.*
One record only, a single bird seen Oct. 8, 1916.

3. Herring Gull—*Larus argentatus.*
One record only, a single bird seen April 28, 1919, on the pond at Scotia.

4. Ring-billed Gull—*Larus delawarensis.*
One record only, two birds seen May 7, 1916, on the mill pond at Oak Hall.

5. Bonaparte's Gull—*Larus philadelphia.*
A single bird seen May 7, 1916, at Oak Hall; fairly plentiful during

the spring migration of 1917 and seen at frequent intervals on the pond at Scotia from April 20, through May 7. On the latter date seventeen were found there, resting quietly on the water.

6. Black Tern—*Hydrochelidon nigra surinamensis.*
Two records, both for the spring migration; May 17, 1915, two birds were seen at Oak Hall, and May 7, 1917, two were found on the pond at Scotia.

7. Hooded Merganser—*Lophodytes cucullatus.*
Scarce but of regular occurrence each spring; earliest, April 2, 1917; latest, May 9, 1915; one record for the fall migration, Nov. 11, 1916.

8. Mallard—*Anas platyrhynchos.*
Recorded only during the fall migration of 1916, but unexpectedly plentiful then, small flocks being seen at frequent intervals on the pond at Scotia from Oct. 26 through Nov. 14.

9. Black Duck—*Anas rubripes.*
Scarce but of regular occurrence each spring and fall; earliest, March 18, 1917; latest, April 20, 1917; earliest record for the fall migration, Sept. 25, 1915; latest, Nov. 2, 1916.

10. Blue-winged Teal—*Querquedula discors.*
An uncommon migrant; in 1916 a single bird lingered from Sept. 19 through the 24th on a small pond and on October 21 one bird was seen at Oak Hill; in 1917, two birds, male and female, were seen April 21 feeding at the edge of a creek.

11. Pintail—*Dafila acuta.*
Recorded only during the spring migration of 1917, but fairly plentiful then, small flocks being seen at frequent intervals from Feb. 4 through April 19.

12. Redhead—*Marila americana.*
One record only, two birds, both males, seen March 30, 1916, at Oak Hall.

13. Scaup Duck—*Marila marila.*
A common spring migrant; earliest record April 14, 1916; latest, May 7, 1917; no records for the fall migration.

14. Golden-eye—*Clangula clangula americana.*
A scarce migrant; three records, all for the spring migration; March 14, 1916, one bird, April 2, 1917, three birds, all males, April 19, 1917, two birds, both males.

15. Buffle-head—*Charitonetta albeola.*
Fairly common during the spring migration, scarce in the fall; earliest record in the spring, April 14, 1916; latest, May 14, 1917; one record for the fall, two birds, Nov. 4, 1916.

16. Old-squaw—*Harelda hyemalis.*
One record only, one bird seen April 16, 1917.

17. Ruddy Duck—*Erismatura jamaicensis.*
A scarce migrant; two records for the spring migration, single birds, April 21, 1917, and May 14, 1917; one for the fall migration, a single bird Oct. 28, 1916.

18. Greater Snow Goose—*Chen hyperborens nivalis.*

One record only, a flock of fully seventy birds seen Nov. 16, 1916, toward the middle of the afternoon, flying noisily by overhead.

19. Canada Goose—*Branta canadensis canadensis.*
A regular but scare migrant; earliest, Feb. 26, 1917; latest, April 2, 1916; earliest for the fall migration, Oct. 16, 1915; latest, Oct. 21, 1916; usually seen in flocks varying from thirty to sixty birds, which announced their presence long before they were seen.

20. Bittern—*Botaurus lentiginosus.*
Scarce, and of irregular occurrence during the spring migration; earliest, April 3, 1917; latest, May 12, 1917.

21. Florida Gallinule—*Gallinula galeata.*
One record only, a single bird seen May 6, 1916, on the mill pond at Oak Hall.

22. Coot—*Fulica americana.*
Two records for the spring migration, a single bird seen each time, April 30, 1916, and May 14, 1917; fairly common in the fall; earliest, Sept. 24, 1916; latest, Nov. 5, 1916.

23. Wilson's Snipe—*Gallinago delicata.*
A common migrant; earliest, March 25, 1916; latest, May 7, 1916; usually plentiful by the first week in April; earliest for the fall migration, Sept. 26, 1916; nine birds remained about a pond during the entire winter of 1916-17, and were seen there almost daily during the latter part of December, and January and February; when the weather permitted they at times scattered out about the swamps and creeks close by, but deep snows invariably brought them back; a single bird wintered about this same pond during the winter of 1918-19.

24. Pectoral Sandpiper—*Pisobia maculata.*
Recorded only during the spring migration of 1917, but single birds or small flocks seen at frequent intervals then from April 12 through May 4; possibly overlooked other years.

25. Least Sandpiper—*Pisobia minutilla.*
A common spring migrant; earliest, May 2, 1917; average, between the 9th and the 13th; latest, May 26, 1916.

26. Greater Yellow-legs—*Totanus melanoleucus.*
Common during the spring migration of 1917, but rather scarce other years; earliest, April 3, 1917; latest, four birds seen May 14, 1917; ordinarily one or two birds were seen each spring between the 6th and the 12th of May; two records for the fall migration, Oct. 21, 1916, and Nov. 14, 1916.

27. Yellow-legs—*Totanus flavipes.*
A common spring migrant, occurring in flocks of as many 10 or 12 birds, and frequently seen with the preceding species; earliest, April 3, 1917; latest, May 17, 1916; unusually abundant during the spring of 1917; four records for the fall migration, single birds seen Sept. 18, 1915, Sept. 19, 1915, Oct. 28, 1916, and Aug. 1, 1920.

28. Solitary Sandpiper—*Helodromas solitarius solitarius.*
A common migrant; earliest, April 14, 1916; plentiful by the first week in May; latest, May 22, 1916; latest for the fall migration, Sept. 30, 1915.

29. Semipalmated Plover—*Ægialitis semipalmata.*
A scarce spring migrant; three records; one bird May 17, 1916, one bird May 30, 1916, and a flock of six birds May 7, 1917.

30. Goshawk—*Astur atricapillus atricapillus.*
Scarce, and of irregular occurrence during the winter; four records, Nov. 17, 1915, Nov. 26, 1916, March 15, 1917, and March 12, 1919.

31. Red-tailed Hawk—*Buteo borealis borealis.*
A regular but scarce migrant, one or two being seen during each spring and fall migration; earliest, March 22, 1917; latest departure, April 28, 1919; records for the fall migration, Nov. 10, 1914, and Nov. 11, 1916.

32. Red-shouldered Hawk—*Buteo lineatus lineatus.*
One record, a single bird, seen Jan. 31, 1916.

33. Osprey—*Pandion haliaëtus carolinensis.*
One record, one bird lingering for six days, from April 17, 1917, through the 22nd, about a creek near the town.

34. Short-eared Owl—*Asio flammeus.*
One record, one bird seen Nov. 5, 1916, flushed in a large open field.

35. Yellow-bellied Sapsucker—*Sphyrapicus varius varius.*
A common migrant; earliest, March 26, 1917; average, March 30; plentiful by the end of the first week in April; latest record for the spring migration, May 14, 1916; earliest record for the fall migration, Sept. 18, 1915; average, Sept. 26; latest, Nov. 14, 1914; average date of departure, Oct. 14.

36. Olive-sided Flycatcher—*Nuttallornis borealis.*
One record, one bird seen May 11, 1919, in the top of a tree at the side of a road uttering its characteristic note of alarm.

37. Yellow-bellied Flycatcher—*Empidonax flaviventris.*
Two records, Oct. 16, 1915, and May 19, 1916.

38. Alder Flycatcher—*Empidonax trailli alnorum.*
Three records, May 12, 1917, May 13, 1917, and May 17, 1919.

39. Horned Lark—*Otocoris alpestris alpestris.*
A common spring migrant, appearing in large flocks of from two to three hundred birds; abundant in 1916 and 1917, but scarce in 1919; earliest, Feb. 26, 1916; average, March 22; latest record for departure, April 9, 1916; average, March 31.

40. Rusty Blackbird—*Euphagus carolinus.*
A common migrant; earliest, March 4, 1919; latest, May 7, 1916; earliest record for the fall migration, Oct. 3, 1916; latest, Nov. 20, 1914; one winter record, a single bird seen Jan. 6, 1917, feeding with a flock of English Sparrows.

41. Purple Finch—*Carpodacus purpureus purpureus.*
A common migrant, and a scarce but regular winter resident; earliest record for the fall migration, Sept. 19, 1916; common by the first of October; latest record for the spring migration, May 17, 1915; average, May 14.

[Continued in September Wilson Bulletin]

THE PHILOSOPHY OF BIRDS' NESTS AND COMPARATIVE CALIOLOGY IN CONSIDERATION OF SOME LOCAL NIDICOLOUS BIRDS

The old Spanish proverb as pharaphrased by Longfellow, "There are no birds in last year's nest," is in many instances more poetic than true, and the bird-lover is blase indeed if the discovery of even an empty nest does not sometimes awaken a lively curiosity and a thrill of admiration for the builder.

Caliology is a most delightful and instructive department of Ornithology and should appeal to the ultrahumane, especially since the study does not necessitate the destruction of life and the collection of its bewildering variety of specimens ranging from the most crude to the most curious and artistic types, is just as practical as skins or eggs.

The site, position, composition, architecture and workmanship of the nest may reveal something of the builders' habits, haunts, structure and position in the Avian scale.

The subject is indeed full of possibilities, for the nest represents the sole constructive work of the owner, the tangible asset of a more or less mechanical energy set in motion by certain physiciological conditions or stimuli; the revelation of a most interesting phase of that mysterious innate propensity called instinct, which we are told, has the appearance of reason and knowledge, exceeding as it does the intelligence and experience of the builder; to which is added traditional habits, adaptability and perhaps a modicum of originality, should we follow the older school in the belief that birds have much the same sense facilities for acquiring knowledge that ourselves possess and though much inferior, are like us in mind and emotions. Authorities differ in their conception of the origin of instinct. In general, that of natural selection through the elimination of the unfit, seems the most plausible, and that of the effects of habit through successive generations, a contributing factor. Though the truly instinctive nature of nest-building has never been fully established, Wallace in his rejection of the hypothesis based his contention on erroneous premises and his main conclusion that nest-building is essentially imitative, lacked proof. It has been argued that a nestling knows less of its nest than of its general surroundings and that if birds were imitative there would be no reason why a species should not sometimes pattern after allied

species instead of each species constructing a standardized nest after its own kind. In colonial species it might be possible for the immatures to pattern after the adults, and there would be nothing revolutionary in this thought for it is easily proven that birds are mimetic in song and frequently in the wild state imitate the notes of other species. The writer has identified the song notes of some 18 species uttered by a single, talanted Catbird in the hedge and as many call notes given by a Starling nesting in the cornice.

After the vital continuous instinct of self-preservation (that of subsistance and avoidance of harm) hardly less powerful is the periodic or seasonable breeding instinct, which for brief and critical periods takes precedance of the first, and it may be necessary for the perpetuation of the species that it should, since many species would be individually safer without a fixed abode.

The breeding cycle is one of orderly sequence full of dominating influences and associations naturally leading from one to another. No doubt the first phase is that of the awakening of sexual and homing instincts portending the vernal migration to the place of birth, followed by the fight for exclusive rights to sufficient territory, commonly within the province of the male; then comes the period of courtship, selection of exact site for nest, in which the female commonly appears to have the last word; nest-building, deposition of eggs, incubation and care of young naturally follow, when the song period may suffer an eclipse or the more virile species of comparatively short breeding cycle may inaugurate a second or even a third cycle of similar sequence of minor actions beginning with courtship. Many species of diverse feeding habits may occupy the same ground apparently without coming into actual competition in the matter of food. Since most of the individuals have more or less restricted and distinctive haunts during the breeding season and employ the building materials close at hand, it may be assumed that the inward impulse to build is quickened by the presence of the requisite and traditional materials about its feeding station. However, instinct does not enable it to select the proper matter unerringly, for the female of many species often rejects at the last moment materials brought to the site by herself or more frequently by the male, who seems to lack discrimination most often.

In nest-building the female commonly takes the most promi-

nent part and is, in fact, the architect and builder. It is therefore of physiciological origin, for this action is quite similar to that of a mammal seeking the seclusion of a bed or den remote from disturbances to give birth to its young.

Although sufficiently complete studies of the home life of most of our birds are yet a desiderata, it appears that both sexes of many species of the groups including the Puffins, Auklets, Shearwaters, Petrels, Herons, Raptores, Cuckoos, Kingfishers, Woodpeckers and Swifts, commonly assist in nest-building; while the Hummingbirds are the only group below the rank of the Passeres in which the males are known to bear no part of the burden.

In the Passerine group there appears a bewildering amount of variability even in species closely allied. Many in which the males are highly colored render little or no assistance: Bobolink, Yellow-headed and Red-winged Blackbirds, Baltimore Oriole, Evening Grosbeak, House Finch, Crossbill, Redpoll, Goldfinch, Cardinal, Rose-breasted Grosbeak, Dickcissel, Scarlet Tanager, Summer Redbird and many of the Warblers. It apparently also includes the Wood Pewee, Crested and Alder Flycatchers, White-throated, Fox, Song, and Swamp Sparrows, Brown Thrasher, and Robin. The male Phoebe, Cedar Waxwing, some of the Vireos, Purple Martin, Mockingbird, and Bluebird assist sometimes.

Species in which the sexes are similar or alike, often both sexes assist: Least Flycatcher, Crow, Savannah and Chipping Sparrows, Swallows, Plainopepla, Shrikes, Ovenbirds, Wrens, Nuthatches, Chickadees, Gnatcatcher, Bush-Tit, and Catbird. Doubtless there are both individual and geographical exceptions to the above list.

The most potent factor governing the selection of the site of a bird's nest is impossible to determine. Habit is strong but ancestral habit yields to changed conditions; the social instinct in colonial species is especially strong; the protective instinct is also powerful, since severe persecution will drive many of the terrestrial nesters to cliffs or trees; the condition of young at birth is considered by some writers as by far the most important cause.

The lower aquatic families from the Grebes to the Frigatebird are almost exclusively insular, colonial, terrestrial, and primitive in nesting habits, and, further, with the exception of

the Grebes, Loons, Murrelets, Murres, and Auks, all of their young are born helpless and remain a long time in the nest.

Of those in which the chick leaves the nest almost immediately, the Grebes, which are not insular, and the Loons, which are neither insular nor colonial, form rude nests not inferior to that of the average nidicolous bird of the lower orders, and the less typical nidifugous Murrelets, Murres, and Auks habitually deposit their eggs upon the bare rock, comparable to the lack of nesting material of many of the nidicolous species of the lower orders.

The Puffin, Auklet, Guillemot, Dovekie, Shearwater, Petrel and Tropic-bird doubtless originally deposited their eggs on the open ground (as individuals of some of these species occasionally do yet) until persecution forced them to seek shelter in the crannies of rocks, or in the absence of sufficient quarters of this nature, to excavate burrows, where the lack of sunlight contributed materially to retard the development of the young, if not to acquire the typical nidicolous condition. It is true that some species of the lower orders are arboreal: the Common and Red-faced Boobies, Anhinga, Florida and Mexican Cormorants, California Brown Pelican and Man-o-War Bird, nest in low trees or bushes, situations less isolated than burrows or precipices but affording something of the security sought.

It is therefore evident that it could hardly have been the condition at birth that determined the nesting site and materials of the lower groups, but conversely, self-protection, and possibly led to the nidicolous condition. Perhaps the best index to the site of a bird's nest can be found in its food habits.

Professor Rennie, in his little volume entitled "Bird Architecture," written almost a century ago, took his cue from Aristophanes, an ancient Greek dramatist, and introduced the birds as artisians according to the form or nature of their nests: miners, masons, carpenters, basket-makers, weavers, tailors, cementers, felt-makers and parasites; also ground, platform and dome-builders; suggesting a somewhat similar method of grouping for this paper.

(1) Doubtless the most primitive form is that in which the egg is dropped upon the bare earth or rock without preparation beyond perhaps a slight hollow. Naturally this form is confined to the lowest Nidicolae—the Albatross, Rodger's Fulmar, Pintado Petral, Tropic-Bird, Blue-faced, Blue-footed and Brew-

ster's Boobies, and should also include the Paroquet and Crested Auklets, Black, Mandt's and Pigeon Guillemots, Dovekie, Bulwer's and Ashy Petrels, though these species deposit their eggs upon pebbles or rock spalls.

The Laysan Albatross exhibits an incipient tendency for nest-building when the sitting bird reaches out to pick up sand to build around the nest a ridge several inches high.

(2) The earth burrowers also represent the lower forms and with some notable exceptions, almost the most primitive types of the diving birds, including the Puffin, Auklet (two species), Guillemot (one species), Shearwater and Petrel, also the Burrowing Owl, Kingfisher, Bank and Rough-winged Swallows.

The burrows of the various species of Puffins are often curved and generally extend three or four feet, seldom far below the surface. Bent says that the work of digging falls chiefly upon the male and that he is at times so intent upon this work as to suffer himself to be taken by hand. The inner toe is well adapted for this work as it is strong, curved and sharp and the other toe nails are but little inferior.

Apparently the male Rhinoceros and Cassin's Auklets share with the female in the labor and Dawson states that the Pigeon Guillemot uses both beak and claws and is forced at the outset to maintain herself in midair. Montgomery says of the Slender-billed Shearwater, that the process, with intervals, requires six weeks. Fisher in describing the excavations of the Wedge-tailed Shearwater on Laysan Island, remarks that it shoves the loose earth under its body and kicks it in little jets far behind as it lies first on one side and works a foot and then shifts to the other.

Turner relates that he found the Horned Puffin nesting on the higher cliffs on the Aleutian islands where foxes were found and on islands where foxes were absent, generally at the base of cliffs, and Jones found some nests of the Tufted Puffin beneath the thickly matted salal bushes without a semblance of an earth burrow, on Bird Reservation off the coast of Washington.

Many of the Auklets, Guillemots, Dovekie, Fulmars, Pintado Petrel and some of the Shearwaters and Petrels, nest under boulders or in fissures of the rocks; doubtless all are burrowers in the future should occasion arise and may offer a hint of the probable origin of the tunnel-nesting habit.

An enlarged cavity in the earth at the end of the hole forms the nest and the slight concavity may be bare of nesting material but is often scantily lined with materials close at hand, a little dead grass, plant stems, leaves or twigs.

The Burrowing Owl appropriates the burrow of the ground squirrel and enlarges the hole. An inhabitant of treeless plains would naturally seek a nesting site similar to its kind, if not a tree-cavity then a cavity in the ground. Bendire states that the loosened dirt is thrown backward with vigorous kicks of the feet, the bird backing gradually toward the entrance and shoving the debris outward as it advances. The original lining was probably grasses and rootlets, now mostly dried cow or horse manure. The Florida form constructs its own burrow.

The Belted Kingfisher bores a nearly circular tunnel sometimes perfectly straight, again diverging at different angles near the surface in sand or clay banks. The nest chamber is on a slightly higher level than the shaft and may have a scanty lining of fish bones or coarse grass blades. The Kingfishers are solitary in contradistinction to all the rest of the burrowers, and some forest-haunting species are said to nest in tree cavaties.

The labor of perforation is accomplished by the Bank Swallow with closed bill according to the observations of Rennie; beginning at the centre and working outward, the bird consequently assumes various positions tending to throw the gallery out of line and sometimes quite tortuous. The time consumed, including the lining of grasses and feathers, is said to be from four to fourteen days.

This cosmopolitan is better known in England by the name of Sand Martin, where it has been found in exceptional instances, nesting in crevices in masonry or old ruins, in tree cavities and it has even been known to burrow in decayed wood.

I have found burrows of the Rough-winged Swallow near Howellville quarries, less than ten feet up the bank along a public road. It burrows in a similar fashion to that of the preceding species, though it is perhaps more apt to use its feet in scratching out the dirt. In the Chester and Schuylkill valleys the Rough-wing usually nests in the crevices or pockets of large stone culverts, abandoned lime kilns and rock fissures, from which it removes the disinterrigated morter or clay and lines the cavity with swamp grass and a few leaves of the swamp willow. In California it has been found nesting in adobe walls

and knotholes. Though less colonial than the Bank Swallow, it is still possible that the tunnel-forming habit originated in the social instinct fostered by a former segregation in rock crannies.

The nidification of these two species would appear to vary very considerably from the family standard, but the Swallows are confirmed mud dabblers, especially the Barn and Cliff Swallows, and Dr. Rich once observed nests of the latter in close proximity to the burrows of a colony of Bank Swallows in a sand spit along the Big Sioux river, and found some of its eggs in the burrows. Even the Eastern Martin builds a little mud dike at the entrance of its nest, and the nest of the Western Martin has recently been found in the drainpipes under the eaves of a school house, one nest having a layer of mud, then grasses, lined with acacia leaves. The Tree Swallow conforms to the family standard in its love of a darkened nest-chamber and the character and material of lining.

All earth burrowers appear to use both bill and feet in the construction of their tunnels and the male always shares in the hard work. It is remarkable that species of so extreme types and diverse equipment should be able to attain the same end in nesting site, and demonstrates that structure has little to do with this form of nidification.

(3) The more or less concave platform is a primitive type of the open nest, especially adapted to the ground or cliff nesting habit and by the enforced transition to an arboreal site, less adapted to the situation than to the bird of aquatic or terrestrial feeding habits. This type includes the Common and Red-faced Boobies, Anhinga, Cormorants, Pelicans, Man-o-War-bird, Noddy, Roseate Spoonbill, Ibises, Bitterns, Herons, Pigeons, Hawks, Owls and Cuckoos, probably nearly all of which were at no remote period ground or cliff nesters, as some are yet. Many are especially adapted for terrestrial nesting and at some disadvantage as arboreal nesters, in fact the only compensation appears to be the protective features of an elevated nest. The Hawks, Eagles, Kites and probably the Owls may have evolved from an arboreal or at least a cliff-dwelling ancestor and their nests are often much more substantial.

Generally the cliff or tree builder utilizes sticks or twigs, while the ground nester frequently uses lighter materials in the main equivalent to a lining. The Marsh Hawk, for instance, uses sticks only when necessary to raise the nest above a wet

ground. In the first trials the stick base of the cliff and tree breeders was obviously not a matter of knowledge or expediency, but the logical conclusion of an indiscriminate collection of materials by the inexpert builder, only to have the lighter materials blown away and the heavier remain.

The floor of the fertile Chester valley occasionally rises 100 feet or more to form a series of knolls parallel with the high hills on either side, the first land to emerge in a chain of islets when in the ancient days the waters broke through the hills and slowly drained into the sea. On these knolls in detached deciduous groves, the Black-crowned Night Herons have existed perhaps since time immemorial. It may be more than a coincidence that all of these heronries have been placed in the western side of the groves, facing up the valley toward the first drained area and that the birds enter and emerge from this side though some have the disadvantage of contiguous roads.

It is not necessary to go beyond 1872 when the heronry situated near the cantonment of Wayne's Continentals at Valley Forge were shot up and the survivors settled near Port Kennedy, two or three miles further down the valley. When the timber of this grove was cut a few years later, the birds simply moved one field east to a similar situation, where a nucleus has existed with a few years interruption down to the present time, and from here the increase flowed back to the former site as soon as the timber became large enough to bear nests, comprising the twin colonies reported in 1891 to be the largest extant in this part of the country.

The westernmost colony much depleted, maintained an average of about 100 adults from 1900 to 1905 when the timber was again cut the following winter and the Valley Forge colony reestablished in 1906, after an abandonment of 34 years, in a detached grove quite close to the old site. This heronry of 43 nests increased to 150 nests in 1907 by the accretion, I since learned, of the easternmost Port Kennedy colony with which it was so closely affiliated. The return of so interesting a species, en masse, to its ancestral nesting ground after a period doubtless several times longer than the life of any individual of the colony may be due to the habit of the adults of this communal group revisiting the site during migrations until it became a familiar resting place and naturally would be resettled whenever the birds were dispossessed, though it was the most ineligible from the

standpoint of timber growth and privacy, of the several groves in the neighborhood. The annoyance began in 1908 and though the maximum of newly built nests was attained on May 9, 1909, continuous persecution drove all but four pairs with small young, to seek refuge in the easternmost grove at Port Kennedy and at Red Hill about a mile further down, and definitely abandon it the next year.

I am reliably informed that the Red Hill heronry was established in 1886, however I did not visit it until 1914, when 90 nests continued to show evidence of occupation although recently "shot up." It was further reduced the next year to 60 nests, the same time that the Vallege Forge colony was once more reëstablished with 50 nests and apparently had a prosperous year on the former site, since in 1916 there were 127 nests, but the gentlemen farmers in the vicinity accused the Herons of a well developed taste for young Mallards, and on April 15, 1917, I observed only about 15 birds engaged in nest-building and 33 others in nearby timber apparently undecided; however they soon after departed to swell the lower colonies.

Though largely nocturnal this species is at a great disadvantage in beginning to nest before the leaves are formed when the birds and nests may be seen at a distance. I have observed the entire Valley Forge colony of adults perched upon the tall saplings in the rear of their heronry, looking, I fancied, like gigantic exotic blossoms on long slender stems; as they awaited the departure from under their nests of a party of idlers.

The Red Hill heronry continued the brutal sporting ground of some inconsiderate persons and on July 20, 1920, there were probably 45 nests inhabited by young belated more than a month. The following year the wood was removed and a powder magazine erected, resulting in a marked increase in the easternmost Port Kennedy colony, now the sole remaining heronry in the valley. This heronry met with a setback in 1922 when so many young perished during a storm, but was in force in excess of 300 adults the season following and due to the humane farmer had a most prosperous year.

The nests of this picturesque species are placed in the highest available crotches and topmost branches of slender young ash, oak, chestnut, cherry and poplar, 25 - 75 feet above the ground. The nest is a very good example of the platform type, although sometimes a mere bundle of sticks in the least suitable branches—

probably the work of the immature. The nests are grouped as close as possible and the bill only is used to gather sticks from the ground or twist twigs from the tree, at which both sexes appear to work from a few days to a week to rear a compact structure, well tramped down and finished slightly concave. This type of unlined nest, I have reason to believe, was peculiar to this part of the country in Wilson's time.

While the excreta whitewashes the nest, tree and ground for a radius of several feet, it does not kill the tree but on the contrary it accelerates its growth, while a most luxuriant vegetation covers the ground except immediately under the nest.

The Mourning Dove, like most of its family, is social and gregarious, but not essentially colonial. It is an adaptive species nesting from the ground to upwards of 50, though usually 5 to 15, feet, mostly in evergreens or thickset deciduous trees. I have found it on top of bare stubs and once upon the broad railing of a rose-embowered balcony, and it has been found in various localities on ledges, bowlders, roofs, wood piles and in cavities. The nest has a base of a few twigs, a scant layer of grass and weed stalks and lined with grass rootlets. I have noticed the male make numberless trips of 40 feet to gather material in bill for the female to arrange and complete in two days. Dice remarked that while many other species building nests of greater bulk, gather all the material possible on a single trip, this species carries a single straw at a time and when this is accidently dropped, the bird continues to the nest before making another trip.

The Hawks are natural cliff and tree nesters, usually building a compact structure capable of withstanding the storms of several seasons. The Cooper's Hawk compares favorably with the best as a builder. Like the Broad-wing, both sexes carry material in talons or beak, much of it broken from the live tree; also bark scale lining.

The more slovenly Broad-wing is adverse to the construction of an entirely new nest, builds at a lower level, is most tenaceous to locality and has a perfect mania, shared in a lesser degree by all the Buteos, and occasionally by some of the Cormorants, Hawks, and Cuckoos, for plucking green sprigs, blossoms or leaves from nearby trees to serve as an additional lining after the deposition of the eggs, to be renewed constantly after incubation has advanced or while the young are helpless. To the

writer this simply signifies recurrence of the earlier stages of the nesting cycle coincident with a renewal of sexual activity after a short period of inactivity. Since the early nesting species are accustomed to gather more or less light twigs broken directly from trees, it is natural that in the repetition of the building phase the same thing should reoccur, even though the terminal twig should bear bud, leaf or blossom, according to the advance of vegetation.

[To be Continued in Next Issue]

FOUR DAYS' OBSERVATIONS AT A GUNNING CAMP ON MARTHAS VINEYARD

A. H. WOOD, JR.

APRIL 18, 1924

Down to camp on Friday. A fine sunny day but very windy. There are usually myriads of Gulls and Terns at the Woods Hole wharf, but there were very few in evidence this trip. Pretty early in the season.

We saw great banks of Scoters, apparently all *Oedemia deglandi,* feeding in the sound on the way over to the Vineyard. On the beaches between Oak Bluffs and Edgartown the Gulls were fairly numerous. Three species of the Gulls were in evidence — Herring, Great Black-backed, and Laughing. They were all standing huddled up on the shore looking as though they hadn't a friend in the world. Flying overhead were a few Terns, mostly Common Terns, but we also noticed a few Roseate Terns and several Least Terns.

The ponds en route all contained small flocks of Lesser Scaup and a few American Golden-eyes.

We arrived at camp about 2:30 p. m., but as it began to storm we contented ourselves with cleaning up and airing out the camp for occupancy.

APRIL 19

Rain and wind greeted us at 6 a. m. and lots of it. The inclement weather didn't prevent Fred and myself from starting out at 7 to see what birds were out in the storm as well as ourselves.

We found a pair of our mated Geese nesting on the shore of the lagoon on the point.

We went over to the west blind and rowed the boat over to the South Beach. The waves were running very high, and the trip over to the beach was anything but dry. The avi-fauna on the beach was very scanty. In another month the *Limicolae* will be much more in evidence than they are now. We noticed one Piping Plover running along the shore of the inner beach as we landed, and later we saw a Sanderling on the outer beach. There were two dead White-winged Scoters and a Gannet lying on the beach, evidently killed by the discharged fuel oil of passing ships as their feathers, breast and wing, were heavily matted with the viscous stuff.

The rain let up about 2 p. m. so Fred and I painted the sail boat and the front porch. While painting the boat we saw several pairs of ducks fly over but they were too far off for positive identification. They were probably local Black Ducks which are very common in this vicinity.

There are very few land birds around camp yet. About all we saw were Marsh and Red-tailed Hawks, Crows, Song Sparrows, Towhees, Robins, and Tree Swallows.

April 20

Easter Sunday and a mighty poor one! Driving rain and more high winds out of the south-east. Charley, Fred, and the Skipper went over on the mail boat for the afternoon train. Joe and I stayed in camp.

April 21

Allan called for me about 8 a. m. in the Ford and we started up-island to Squibnocket Pond to visit a Night Heron colony. While driving past Oyster Pond we saw several large flocks of Canada Geese swimming around in the pond, feeding along the shore, and otherwise enjoying themselves. Later in the morning, we saw several other wedges high in the air, headed north. These wedges were so high that the individual birds looked to be the size of a sparrow, yet the wind brought the sound of their honking down to us with astounding clarity.

In one of the small outlying Lagoons bordering on Squibnocket, we saw about twenty "Blue Peters" (American Coot) sitting idly in the sun, completely satisfied with the world in general. They were very tame and allowed us to approach to within twenty yards of them, close enough to see their peculiar

banded white bill. In times past they have bred in this vicinity, and it looks as though they might breed there again this spring.

We arrived at the Heronry about 10 a. m. This particular colony is situated off the main Gay Head-Edgartown road, about one-third of the way between the road and the north-western end of Squibnocket.

A small marshy pond, oval in shape, about one hundred yards long and half as wide, bordered by a wide fringe of tall bushes and dead trees, comprises the Night Heron colony.

The birds were sitting on every bush and tree in sight — about three hundred of them, and every bird a Black-crowned Night Heron. At our approach the Herons nearest us rose in clouds and settled on the other side of the pond. They were all very wild and would not allow any sort of an approach for observation. It was necessary for us to make use of a pair of high-power glasses to see any detail at all. The birds were all in their splending breeding plumage and made a beautiful picture perched on the dead tree tops with the sun shining directly on them. We watched them for about an hour and enjoyed every minute of that hour.

We drove back through the Heath-Hen Reservation, passing a covey of about twenty or thirty Quail on the way, but it was too late in the day to see any Heath-Hen.

Joe and I took the afternoon boat and arrived back in town that night. We are planning to go down to camp again the last of May and visit the breeding grounds of the Herring and Laughing Gulls, Piping Plover, Terns, and Parula Warblers.

Boston, Massachusetts.

SCREECH OWL
(*Otus asio asio*)

E. D. Nauman

(Observations on some of its food habits).

When my brother and I were boys our home was on a farm near where the town of Keota, Iowa, now stands. The farm buildings were located near the margin of an extended forest.

We boys became interested in the domestic pigeon business. We built and put up nest boxes to the number of about a dozen and usually had about that many pairs of adult pigeons about the place. When undisturbed they produced many a pair of

luscious squabs and besides furnishing the family a rare dish occasionally, they also produced some revenue for us.

The third summer we had the pigeons, however, something interfered with them so they did not prosper. The adult pigeons, besides being unusually wild, gradually disappeared and they produced few or no squabs. Several times we discovered dead and half devoured young pigeons in the nest boxes. Once I found the remains of an adult pigeon that had been partly devoured. We could not account for this state of affairs; but it was certain that our pigeon business was "on the blink." We tried to account for our misfortune by assuming that rats, or minks, or weasels were doing the mischief. This did not, however, quite fill the bill, for some of the nest boxes were so located that it was hard to see how any of these Carnivora could reach them.

For a long time, we were completely at sea without anchor or compass in regard to this mysterious matter. But finally the time came when all was made plain. One day I suddenly raised the lid off a nest box where there still had lived a pair of pigeons, and I was startled and dumfounded to see an Owl dodge out through the opening and make his get-away in great haste. And there was a half devoured pigeon left in the box. The owl had got out of the box in such a hurry that I could not be sure at the instant as to what species it belonged to but by subsequent observations we made certain that the mischief was being done by Screech Owls. We made war on them of course, as under the circumstances I think we were justified in doing. We shot a number of them and cut down several of the trees in the immediate vicinity, where they were known to live, and almost immediately our pigeon business began to improve and in due time to prosper again.

In recent years there was located an outhouse or storage room near a residence two blocks from my present home in Sigourney, Iowa. The one side of this outhouse was covered with a thick mat of Virginia Creeper. This tangle of vines was a favorite hiding and roosting place for great swarms of small birds, mostly English sparrows.

Directly in front of this tangle of vines and about 15 feet distant stood a clothes line post seven feet high. Many times as I passed there in the evening I could see a Screech Owl stationed on this post with his yellow eyes fixed on that tangle of

vines. One evening as I was passing, the owl made a sudden dash into the vines and flew away carrying a wriggling and screeching sparrow in its talons. The gentleman who lived at that place told me that he had seen the owls catch a great many birds at this tangle of vines. I suppose we are justified in assuming that these owls do not indulge in any hair splitting arguments over sub-species, so doubtlessly many a luckless Junco, Tree Sparrow, or other small bird is obliged to contribute to their bill of fare.

For many years a pair of these little owls have made their home in a hollow limb of one of our shade trees within 12 feet of our residence. Last summer a pair of Crested Flycatchers appropriated another hollow limb of the same tree and made their nest therein. The opening to the Flycatchers' home was only about eight feet from the owl's front doorway.

For about three weeks everything passed along amicably so far as I could see. I saw the Flycatchers every day many times and heard them oftener. They had already begun to carry food to their young when suddenly something happened. Everything was not peace and tranquility about the Flycatchers' home. I could see only one bird and he was shy and not carrying any food, and in a few days he also disappeared. The location of their nest in the tree was somewhat inaccessible, so I did not attempt to climb up and make a more careful examination. I cannot, therefore, make any positive statement in regard to this case, but it looks mighty suspicious for the owls. It seems they must have had a "swell" dinner at about this time, consisting of a brood of young Flycatchers and one adult ditto.

These are simply a few discordant notes in the grand symphony of Nature. A perfectly good little owl should of course catch nothing but mice, rats, rodents, grasshoppers, etc. But they do not. Government reports show however that not over one-sixth of this owl's food consists of other birds. The balance or five-sixths consists of mice and other rodents and insects, thus indicating that the Screech Owl is mainly a beneficial bird and should be protected, excepting possibly in a few individual cases.

Sigourney, Iowa.

THE WILSON BULLETIN

Published at Oberlin, Ohio, by the Wilson Ornithological Club

Official Organ of the Wilson Ornithological Club and the Nebraska Ornithological Union (in affiliation).

Price in the United States, Canada, and Mexico, $1.50 a year, 50 cents a number, postpaid. Price in all countries in the International Union, $2.00 a year, 60 cents a number. Subscriptions should be sent to Ben J. Blincoe, R. F. D., Dayton, Ohio.

EDITORIAL

The Editor will begin his annual automobile trip to the Pacific coast on the morning of June 18. He will return to Oberlin about August 20. Mail should be addressed to him at 143 West College Street, Oberlin, O. The points of especial interest that will be touched are Black Hills, Yellowstone, Glacier and Rainier parks, and the Pacific Ocean at Mora, Washington.

The Bird Banding work, under the able direction of Messrs. Baldwin and Lyon, seems to be much the most active work that is being done at present. We may confidently look for some valuable results from the season's activities. There are many interesting problems that can be worked out single-handed, as Mr. Baldwin has demonstrated, but there are at least as many more that require the coöperation of many workers. Lend your aid.

Time was when a mere enumeration of the birds that were to be found in some political division could be looked upon as a contribution to our knowledge of the science of Ornithology. For a large part of North America that is no longer true. In the case of a very lage proportion of our native birds the general outlines of distribution are well enough known already. What is wanted is specific information about the species—just where in the political division it is to be found, just what its natural environment is, not only during the breeding season, which is by far the most important activity of every species, but also at other times, if there is any difference. It is not possible, at this time, to go into this matter at length. That will be done at a later date. Meanwhile your Editor wishes to say to any contributors who are contemplating the preparation of local lists of birds that he does not believe that mere enumerations of the species warrants the cost of publication.

NOTES—HERE AND THERE

Conducted by the Secretary

On March 7th the Secretary, at the invitation of the Outdoor Art League of Louisville, Kentucky, gave four lectures on Ornithology in that city. In the forenoon he spoke before the Louisville Normal School on "The Educative Value of Bird Study"; before the Male High School on "The Miracle of Migration"; and before the Kentucky Home School for Girls on "The Wonder of the Commonplace". At noon he was the guest of the Outdoor Art League at a luncheon at the Henry Watterson Hotel, where he spoke on "Modern Methods of Bird Study", emphasizing especially bird-gardening, bird-banding, and bird-reservations.

It is a matter of gratification to us of the W. O. C. that one of our good members, George M. Sutton of the Carnegie Museum of Pittsburgh, is making quite a reputation as a bird-artist. There is no field that offers such opportunities for service as that of painting wild life in its native habitat. Much of the older work was too stiff, and reminded one at best only of well-mounted specimens in a museum. Mr. Sutton is continuing his work on his admirable study "The Birds of Florida". We will welcome the publication of this great study.

The Park City Daily News (Bowling Green, Kentucky) had the following as a news item on March 5, 1924: "Erwin, 7, son of Westerfield Dorsey, a farmer living three miles south of Smith's Grove, on the Smith's Grove and Glasgow Road, had a narrow escape when attacked by a large Golden Eagle last evening in the front yard of his father's home. The child was playing in the yard when the eagle flew at him twice. The second time the eagle flew against a wire fence and was crippled. The boy screamed for help and his father came to his assistance. The eagle was captured by Dorsey and is now caged. The eagle measures 52 inches from tip to tip and is a young bird. It is attracting a great deal of attention, being the largest eagle that has ever been captured in the Smith's Grove vicinity".

Franklin P. Metcalf, now teaching in Fukien Christian University, Foochow, China, writes the Treasurer: "The bird situation out here is very unusual, as we have such a large variety that live in or pass through this province. In fact, there are 462 birds reported from this region near Foochow, and I do not suppose that the list could be called complete. A great opportunity for some museum to build up its collection would be found in this region".

Here is a note about one of our members who is now far away: "St. Mary's Ohio, April 12, 1924—A 'whistling monkey' was shot by Professor Walter F. Henninger, former Auglaize County church pastor, now at the head of a school in Rio Grande do Sul, southern Brazil. The monkey treed itself on the comb of Henninger's house, his letter states. After unsuccessful attempts to catch the nimble-footed vagrant, Henninger brought it down by means of firearms. Then his wife declined to cook the carcass for him. Monkey meat is a decided delicacy,

Henninger insists. During a January summer outing at his station in the southern hemisphere Henninger says he and his wife captured 1500 perfect specimens of butterflies and other insects. His students on summer vacation (at Christmas time) caught 2000 bugs, which they donated to the enterprising professor. His collection now exceeds 11,000. A photograph shows Henninger and a woman school teacher holding a six-foot live snake stretched between them. A twelve-foot crocodile is a prize Henninger hopes to capture and bring with him when he returns to the States."

In the second annual bird census made by three members of the San Diego Society of Natural History on January 30 a total of 107 species of birds were counted between the hours of 7 a. m. and 5 p. m., all within a radius of 15 miles of San Diego. This exceeded by 14 the highest previous record, says a dispatch from that city.

Miss Lena B. Henderson, head of the Biology Department of Randolph-Macon College, Lynchburg, Virginia, one of our new members, writes to the Secretary: "We have a very interesting Robin on our campus. Its throat is pure white, there are broken white lines over the eyes, and the under tail coverts are white. Its bill is lighter than normal. There is a great deal of interest manifested by our students in Biology, and I should like to follow it up. I hope it will nest here. I have never done any bird-banding, but it seems that we should keep some record of this interesting bird."

Thomas M. Earl, Columbus, Ohio, the famous taxidermist, has issued on the back of his advertisement a clever series of jingles called "Bird Orders in Rhyme". Here is a sample:

"An-ser-es is Order Five,
In one family they thrive;
Ducks and honking geese and swans,
Wild, likewise domestic ones;
Notice the peculiar bill
With its inner tooth-like frill."

On March 4, 1924, our good friend, Professor Dayton Stoner of the University of Iowa, gave from the university broadcasting station, WHAA, a lecture on "Spring Birds", which has since been printed as a regular issue of the University of Iowa Service Bulletin. Dr. Stoner is always interesting and does himself peculiar credit here in his account of the problems of migration, the different kinds of birds, (permanent residents, summer, winter, and migrants), and the dates of the great migration waves.

Mr. Belden Saur of Norwood, Ohio, writes to the Secretary: "On Friday, April 19, I took several boy friends of mine and set out for a little walk in a small strip of woodland near Newtown, Ohio (about two miles from Cincinnati). We had no particular aims in view, just collecting a few wild flowers, or studying a casual bird that might fly by. After walking a while, out attention was attracted by a group of Black Vultures which were excitedly plunging about over heads in a very un-Vulture-like manner. There are several Owl roosts in this woods; so

I naturally supposed that the Vultures had found an Owl. I suggested that we sit down and watch to see what would turn up. As we sat there, a large group of Crows suddenly appeared from nowhere, followed by two Red-tailed Hawks. Sounds strange, doesn't it? Well, danger, I suppose, also makes strange bedfellows, for the Vultures, the Crows, and the Hawks all flew peacefully about one another for a bit. Then I was given a treat, which I believe was one of the greatest that I have known in my study of birds. A gigantic bird, judged by the size of the Vultures and the Hawks, floated across the sky. It had a smaller bird in its claws which I could not recognize. It alighted in a near-by tree; I instantly recognized it as a Bald Eagle, almost a bird of my city dreams, right before me. He remained but for a minute, as the allies, the hawks, the vultures, and the crows, pounced upon him. That minute was enough, though, for I plainly saw the white head, the yellow beak, and the peculiar roosting position of the Eagle."

Douglas Ayres, Junior, St. Lawrence University, Canton, New York, commenting on his Christmas census in Bird-Lore, says to the Secretary: "I think fifteen species is the highest number ever seen in one day while taking the bird census, but it gives me more pleasure than any other winter trip. Up here in the St. Lawrence country bird life is very scant. On December 8, 1923, I saw a flock of 70 Evening Grosbeaks feeding on sumach cones, the canary yellow of the males contrasting vividly with the maroon of the sumach berries. On January 26 I saw an Artic Three-toed Woodpecker. I rapped on the dead pine on which it was hammering and it flew right down and lit on a log near me and then hitched along the log towards me. It was a female. I saw a male a year ago up here. A pair of Great Horned Owls are residents in a near-by swamp. Some time next month (The letter was dated February 18, 1924) we will see a flock of Red Wings swaying in the treetops and the Canada Geese will honk overhead, and then we will know that spring is here. With the thermometer at 14 below zero continuously, winter grows monotonous."

Miss Emilie Yunker of Louisville, Kentucky, a prominent member of the Kentucky Ornithological Society, is Director of School Gardens for that city. One of her activities is a series of directed hikes with school children to the parks of the city. Captain Fulkerson, the keeper at Cherokee Park, is a great friend of the birds and helps Miss Yunker in her studies with the school children. On April 18, 1923, the pupils of the I. N. Bloom School, who have taken these hikes every Saturday morning this year, gave a dramatization of Longfellow's "Birds of Killingworth" and in addition a number of their observations in the regular hikes.

The April, 1924, "Gull", published at San Francisco, contains a stinging protest from the editor, A. S. Kibbe, against the illegal practices of the Du Pont Powder Company in inciting the people to destroy numbers of species of birds against which there is a general prejudice. The Secretary feels that the point is well taken and believes that ornithologists and sportsmen alike should protest in like manner against this prominent ammunition company.

The Louisville, Kentucky, *Times* for April 24 contained an editorial which quoted the protest of *The American Field* against this very propaganda by ammunition companies, and says, in conclusion, "The purpose behind the crow-killing contests (such as the one in Tilden, Nebraska, which resulted in the destruction of 17,000 crows) which the Federal Department of Agriculture has not indorsed, and which many ornithologists and many mere human beings deplore as a foolish and savage onslaught upon a species probably more useful than injurious, is ammunition selling."

The Hesston, Kansas, Audubon Society has given this year for the benefit of its members a series of lectures on "Birds and Bird Life."

There are always good ways to keep people informed and interested in birds. Our good friend, I. H. Johnston, State Ornithologist of West Virginia, has adopted the method of speaking to the thousands of people in his state through the columns of the Weekly Market Bulletin. "Questions and Answers about Birds", "Request for a Bird Census", "Birds of West Virginia", "Pileated Woodpecker'" and "Red-bellied Woodpecker" are successive articles in the Bulletins.

John B. Lewis, Lawrenceville, Virginia, recently became a member of the W. O. C. For years he was official observer for the Biological Survey at Eubank, Kentucky, his records there being used extensively by the Survey in determining migration routes.

GENERAL NOTES

THE GOLDEN PLOVER AT COLUMBUS, OHIO

The Golden Plover was seen this spring in large numbers for a short period of time in the vicinity of Columbus, Ohio. In Ohio, it is a very, very rare migrant. It confines its migration to the Mississippi Valley and the Atlantic coast, as a rule. Thus, we seldom have it in Ohio, which is several hundred miles from either place. In Dawson's "Birds of Ohio," Mr. Dawson comments upon the fact that it was once seen several years before his writing of that book. To my knowledge, it has not been seen in Ohio since that time until this spring. Although we have several distinguished bird observers who have been in the field observing birds for the last fifteen or twenty years, it has never been seen here before. So we must consider this record as a very rare accident.

It was first seen on April 18 by Mr. C. F. Walker and Mr. R. M. Geist at the junction of a small road with a well-traveled highway, about two miles southwest of Columbus and about one-half mile west of the Scioto River. There was a flock of twelve Golden Plovers there and no other birds. The majority of the flock were in winter plumage, but a few were changing to summer plumage, while several were in full summer plumage. They seemed to have come in for the night for they were running around a little pond which was hardly more than ten feet in length and about half as wide.

The next morning, at sun-rise, Mr. Milton Trautman went down to this little pond and again found them. This time there were eighteen in the flock. He crept up to them and observed them with a 8X glass at a distance of about thirty feet. He saw them bathe and sun themselves right in front of him. They fed quite a bit, but he is under the impression that their prime object of being there was to bathe in the pool of water and to prepare themselves for the day. The afternoon of that same day Mr. E. S. Thomas and a party found a large flock of Golden Plover about twelve miles southeast of Columbus. There were about 500 of them and about the same number of Pectoral Sandpipers together in a field. This number of Plovers was merely a low estimate of the flock of Plovers as the exact number could not be determined. Upon Mr. Thomas' inquiry of the owner of this field, who lived near by, he found out they had been seen there for the last three or four days.

The last time that they were seen was on the afternoon of Easter Sunday (April 20) when Mr. Trautman and I went down for the express purpose of seeing them. We were greatly disappointed for we saw no trace of them. We went on down the road for several miles in order to see other birds. While there, we saw a long string of about fifty birds fly over us. They flew so high, so swift, and so different from any other birds of this general class that we believed them to be Golden Plovers, but this record is dobutful. On our way home we stopped at the pond where they had been seen before, and there were twenty of the Golden Plovers! They stayed there just about five minutes after our arrival, when they flew away for good. We got a fine view of them during that short time, for I used a 33X telescope on them at a distance of about 75 yards. There were not more than three males in summer plumage which were in that flock. Again it seemed that they had stopped at that place merely for a rest or to spend the night.

It is unfortunate that one of the observers could not have collected one of these birds, but the only possessor of a collecting permit among our bird student friends was unable to get out in order to collect one. However, as we are so certain of their identity, we consider ourselves fortunate in having seen them at all, for we shall probably never see them again at Columbus.

[A flock of 25 was seen near Huron, Ohio, on May 5, and one on the 18th, and another on the 23d at Bay Point, Ohio. — L. J.]
in this connection.

F. Dale Pontius.

May 2, 1924.

BIRD BANDING DEPARTMENT

Under the Direction of Wm. I. Lyon, Waukegan, Ill.

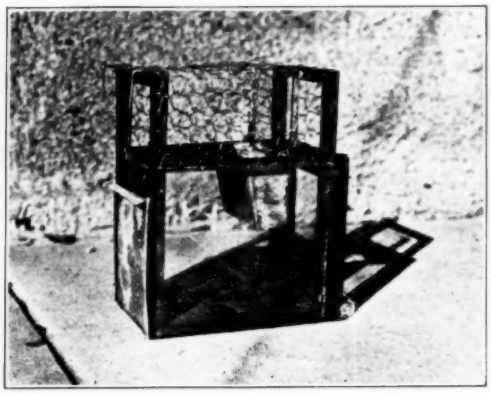
TRAPPING THE TREE CLIMBING BIRDS

There is a way to trap everything if you can only solve the problem. The tree climbers were a real puzzle, as the moment they met an obstruction in going up a tree they would fly, but the way to success is perseverance, so a crude trap was constructed, then we carefully watched the effect and studied the cause. It was discovered that if the obstruction was placed slanting the birds would climb up but keep a little dis-

tance away from the collar or guiding piece of wire netting on the tree. The *illustration* gives you the impression that the collar is nearly horizontal, but that is because the photo was taken from above the trap. The later traps are built with a greater slant to the collar, on a tree that is eighteen inches in diameter. The starting point on the opposite side of the tree is about three feet lower than the upper end of the funnel. As the bird comes into the apex of the funnel, there is an apron that covers the outer side so the only way they can fly, is downward. When they are in the upper compartment, they usually go to the top, and on one side there is an opening into the receiving box, shown in the *second illustration*, and the only obstruction is a clear glass which looks like a

chance for escape and they fly against the glass and slide down the shute into the lower compartment of the receiving box. Some are wise enough to get up the shute, but by opening or closing the bottom of the shute, according to the size of the bird, you can regulate their chances. The bottom of the receiving box has a round piece of wood for a grip so the box can be handled with one hand. Notice the upper part has hooks, so all one has to do is to raise up the box till the hooks are clear and it is ready to come to the ground so it is convenient to get your bird.

The higher you can place the trap on the trunk of the tree the more space you will have for the climbers to get below the trap, but you have to provide some means for climbing; we found some old telegraph pole steps very convenient.



Our first traps were built solid on the tree and took much odd time to construct, but a request to purchase some caused much figuring and rebuilding, and we have a man at present who will make them at $12.00. We have no desire to start a trap factory and we are glad to have you copy our traps for Bird Banding, but for those who do not have the convenience, we have arranged to have local people construct them.

Another trap that has been successful is the "Top Entrance Trap" that works on a balance principle, so when the bird hops on the floor of a small entrance it tilts downward and the only escape is into the lower compartment. As soon as the bird leaves the balance the weight rights the entrance and is ready for the next bird. We have used this trap successfully in bushes up off the ground.

The making of the guard wires at the funnel entrance seems to be the most tedious and annoying to many. We have found a gutter strainer, that can be obtained at a hardware store, can be cut and made to help out in the work; then by taking half or three-quarter inch hardware cloth that is galvanized after made, you can put it over a flame, blow torch or gas stove, and melt it off four or five strands and leave the ends free. A

strip treated in this way around the funnel entrance gives very desirable guard wires. Just try it.—W. I. L.

We need more information and volunteers in our Gull and Tern Banding Campaign. Have you contributed your share of information? Or can you suggest some that can? Have you tried to find a volunteer Bird Bander in your district?

BIRD BANDING — ARE BIRDS FRIGHTENED OR INJURED?

BY S. PRENTISS BALDWIN

Writing to my friends I may be pardoned if I introduce a few lines of autobiography, as it may match that of many others who enjoy birds.

My father, when I was about six years old, taught me an interest in birds and wild flowers. He would take me walking in the fields and woods, then in the evening, at home, he would put down on the floor, for me to play with, that fine old book of Birds, published by New York State in 1845, with its many accurate figures of birds, all beautifully hand colored. Every day of my life I have felt gratitude to that father who was wise enough to put the love of nature into me.

Later I collected birds, learned taxidermy, and made skins of them, but more and more my heart grew tender toward them until I could no longer collect, because I could not bring myself to kill them.

Perhaps that alone is answer to the question whether birds are hurt by trapping and banding, when I add that I have now for ten years or more been actively trapping and banding birds every year, and have handled, I know not how many, but at least some thirty or forty thousand birds from my traps.

But to continue the Autobiography: after years in business in the city I bought a farm, and wife and I lived on the farm each summer; and how we did enjoy the outdoor life.

One feature of the life on the farm disturbed our comfort; just as we were most enjoying the peace and beauty of nature, a bird would cry out in pain, caught by some bird enemy; today perhaps the House Sparrows break up the home life of our Bluebirds; tomorrow it is the home of our Robins destroyed by the red squirrels; constantly tragedy comes to our birds, until this sort of thing worked on my nerves, and I determined to end it.

This was ten years ago, and the change came in the life of the birds on my farm, because I became a bird bander and, finding it so interesting, I have systematically trapped and banded birds on the farm ever since then. Within the last two years several well known ornithologists have visited my farm, and each one has remarked what an extraordinary number and variety of birds I have on the place, and how tame they are. Two of these ornithologists, men of exceptional train-

ing on the subject of bird census, have said they have never seen so many birds per acre, and so many varieties per acre.

There are so many birds on the five acres about my house, and I am kept so busy trapping and banding and observing them during the nesting season from May to August, when I am chiefly doing research work with them, that I have no time to observe the birds on the rest of the farm, which contains in all one hundred acres.

Bird Enemies:

Cats: I allow no cats on the place; I have no grudge against the cat, but I am raising birds not cats.

A friend of mine assures me she has a "perfectly good" cat that does not catch birds, but I would not have such a cat, it is not a healthy, normal cat; when a cat has so lost its spirit that is no longer enjoys the sport of catching live game, and is content to eat out of a dish it is no longer much of a cat.

Red Squirrels: I do not allow them on the place. I believe them to be very destructive of eggs and young birds. Certainly the poorest nesting season in recent years on my place was a season when the place became suddenly over-run with red squirrels before I realized it; and that has not occurred since.

English Sparrow, or House Sparrow: It was trapping them that started me into operating traps and banding the native birds; and it is most evident that the very great increase of native birds on the place has been since the English Sparrow has been eliminated.

But be very sure that the person who operates your traps knows thoroughly how to distinguish the English Sparrows from the several varieties of native sparrows, for the natives are most agreeable little neighbors.

A quiet watchfulness will soon show which are the serious enemies of birds in any garden or locality; the above three have been most serious on my place.

Hawks: The Cooper and Sharp-shinned Hawks are destructive where they occur; the large hawks sailing high overhead are not destructive varieties; but these two smaller varieties come sailing so quickly through the trees, they may do considerable damage before you realize what is going on.

Blue Jays, Crows, Blackbirds: In some places these are said to destroy nests and eggs of other birds, but they have not been sufficiently numerous to do harm for me.

I confess that in trying to protect my bird neighbors I am not much inclined to wage relentless slaughter upon every possible enemy; I mostly like to leave it to nature to work out her own ways.

Screech Owls: Usually represented by one pair on the place; and the Robins do scold at them toward dusk every night, especially when the young owls come out of the nest and scatter all over the place; but I am not yet convinced that the owls should be destroyed.

Cowbird: I do not destroy the birds, but I do remove the egg from

the nests of other birds as I find them, for after all I love the other birds best.

Shrikes: In the bird notes just out from the Biological Survey is a special order of the Department permitting bird banders to destroy shrikes. At my Thomasville, Georgia, trapping station shrikes are so numerous that it is absolutely necessary to destroy them about the traps, or they put the bird bander out of business, but near Cleveland shrikes are not abundant and seldom come near the traps.

Snakes: I do not destroy snakes; I believe them to be useful and valuable; but occasionally a snake will be found disturbing the birds, or their eggs, or young in the nest. One day when a pair of my Wrens were scolding in great excitement, I searched all about for a cat or squirrel or other cause of disturbance, but could find nothing. They continued to scold and I searched again, and after a long time discovered a tiny snake not ten inches long, coiled up in the vine, ten feet from the ground and within a foot of the wren box.

Children: The old days are gone, we hope, when children, especially boys, made it a general sport in the spring to go on campaigns to destroy nests and eggs. Most children are now taught in school to take some degree of interest in birds as useful and interesting neighbors.

But in bird banding there is the danger that children become interested in seeing and handling birds so closely, and with the best intentions they may undertake to help by removing birds from the traps, with hands not yet trained to know how to combine firmness with gentleness in handling. It is not your neighbor's little rascal, it is your own dear child that may "try to help papa" and is likely to handle birds in the traps, when you are not watching.

The bird bander, or anyone else who hopes to have many birds about, will learn to hear the warning calls and distress calls of the birds, and go at once to investigate when these calls are heard. On the question of injuries to birds in trapping and banding, I have gone into this matter of enemies, because very few birds indeed are injured in trapping except by access of these enemies to the traps; and that access need seldom occur if a careful watch is kept for the enemies.

Ten years ago little was known in this country about trapping wild birds; but we have learned more and more how to use the right traps for birds of different habit; and learned to make the traps to better protect the birds from possible injury. An injured bird is a loss, and a failure, on the part of the bird bander; the very success of the sport depends upon the liberating each bird, with a band, uninjured, and in normal, healthy condition to continue undisturbed his natural life, and to come back to the traps over and over again.

In my ten years' experience I remember, I believe, every incident when I have fatally injured a bird by my carelessness. I have not injured one to each five thousand birds handled, not so many as one to each year of trapping.

Add those that have been killed in or about the traps by natural enemies, or from any cause whatsoever, often not attributable to the

trapping in any way, and even then I save from death a hundred birds, for every one that may be lost during trapping.

Birds frightened away by trapping?

Need one ask, when it is the experience of every bird bander, that in continuous operation of the traps, most of the birds taken from the traps are "repeats" as we call them, birds that have been in before. And my records are full of cases of birds that form the trap habit, and are in the traps three, or four or five times a day; all the time in fact.

In the coming July "Auk" Doctor May will tell of "Old Peg Leg," a Thrasher, who this winter has been in the habit of going to sleep in the trap while waiting to be let out.

On this question of fright let us compare our point of view with the experience and point of view of the birds: probably few of us experience a real fright, that is a fear of immediate death or terrible injury, more than two or three times in a life time. It is a tremendous event in life; we never forget it.

But every wild bird lives a life of daily fright, and daily danger to life; a cat passes near, a hawk sails overhead, a dog comes quickly around the corner, under any bush may be a rat or snake; if a bird took it seriously whenever he escapes only by a sudden dash out of danger his nerves would not last him a month. So, as you approach the trap, a bird in the trap flutters desperately to escape; and in your hand struggles, attempting to escape; release him and likely he flies only to a bush ten feet away, and calmly adjusts his rumpled feathers, or picks at a bug, all fear dismissed at once.

All spring I visit each nesting bird on the place every day, and mark or count the eggs, or perhaps remove and photograph the young each day, the parents becoming so tame that I can almost touch them, and they do not even scold me. It is the joy of bird banding that no matter how many you handle, each bird becomes in your hand an individual, one who has a personal record with you, a personal friend.

He goes out from you to far parts of the world; not all will live to come back, but some will return to your hand another year, yes, and perhaps year after year.

Is it any wonder that the officers of Audubon Societies in many states have themselves taken up Bird Banding, and give it hearty support, and urge it to others; they see in it an agency which is so interesting that it turns the casual bird lover into a rabid enthusiast; and each trapping station becomes a haven of refuge, where birds find safety and food and water and know they can live happily.

Why, even since I started to write, only yesterday, the local club of ornithologists visited me, and wandered over my place, exclaiming, "How very many birds you have!" "Have you ever tried to count up all your nests?" "How tame they are!" And this after I have been trapping for ten years past.

MINUTES OF THE TWENTY-FIFTH ANNUAL MEETING OF THE NEBRASKA ORNITHOLOGISTS' UNION

The Nebraska Ornithologists' Union celebrated the completion of a quarter century of activity at its twenty-fifth annual meeting, which took place at Lincoln, Nebraska, on Friday and Saturday, May 9 and 10, 1924. The sessions opened with a public program on Friday afternoon at 3 o'clock in Room 201, Bessey Hall, University of Nebraska. Dr. R. H. Wolcott, President of the N. O. U., was in the chair. Mrs. G. A. Loveland of Lincoln recounted instances of how membership in the N. O. U. had been of value to her in meeting other bird students when traveling outside of the state. Rev. J. M. Bates of Red Cloud gave a very interesting recapitulation of the results of his twenty-one years of bird study at that place. Mrs. G. A. Loveland then told the story of the successful breeding of the scissor-tailed flycatcher near Lincoln in the summer of 1923. Mr. F. C. Collins of the University of Nebraska Museum staff then spoke on the plans of the Museum for furthering the study of Nebraska birds, and invited those present to accompany him in a tour of the bird exhibits at the Museum following the afternoon program. Mrs. C. W. McCaskill of Hastings, who had recently returned from a trip to Egypt, was called upon to give an account of her bird observations on the trip, and in response gave a very entertaining discussion of some of the English and Egyptian birds observed by her.

At this point President Wolcott suspended the program for a time in order to hold a business session. On motion, the reading of the minutes of the twenty-fourth annual meeting was dispensed with, they having been published in full in the June, 1923, number of the Wilson Bulletin. The President then appointed an auditing committee, consisting of Mr. C. K. Hart, Mrs. Addison E. Sheldon, and Rev. J. M. Bates, to examine and report upon the financial statement of the Secretary-Treasurer, and a nominating committee consisting of Mrs. Lily R. Button, Mr. Leonard Worley, and Mrs. H. F. Hole. These committees were asked to report before the end of the session.

In reporting for his office, President R. H. Wolcott urged that as soon as possible the N. O. U. place greater emphasis on its plans for encouraging high school work in bird study in the state and in sponsoring plans of bird protection and game conservation. He called on the members for volunteers to assume leadership along these lines within the organization. The Vice-President, Rev. J. M. Bates, stated that he had no formal report to make. The report of the Secretary-Treasurer was then presented, consisting of an analysis of the financial condition of the N. O. U., a statement concerning the present membership of the organization, and an extended report on the progress that had been made looking toward the publication of the first part of the proposed "Birds of Nebraska," which the Secretary had been authorized to start at the twenty-fourth annual meeting last year. The discussion which followed seemed to indicate that the members preferred a publication dealing rather exhausively with the subject rather than any abridged treatment. and also preferred to have the publication illus-

trated, if possible, by colored plates. No motion, however, was made in this connection.

Election of new members being in order, the Secretary-Treasurer presented the names of nine persons who had applied for membership in the N. O. U., as follows: Mrs. A. Arnold of Inavale, Mr. F. C. Collins of Lincoln, Mr. Thomas D. Griffin and Mrs. Rosalind M. Griffin of Hardy, Mrs. A. H. Jones of Hastings, Mrs. W. H. McCoy and Mrs. Charles Richardson of Fairbury, Miss Mae Sturner of Beatrice, and Miss Louisa E. Wilson of Lincoln. On motion of Mrs. Addison E. Sheldon all of these persons were unanimously elected to membership in the society.

The Secretary-Treasurer then reported that the Executive Committee had submitted for action by the members of the N. O. U. the names of four persons proposed for honorary membership in the society, under the amendment to the Constitution which was adopted at the twenty-fourth annual meeting last year. The names that had been proposed were those of Professor Lawrence Bruner, the first President of the N. O. U. and active in the society until his removal to California and resignation in 1919; Dr. H. C. Oberholser of the Biological Survey, Washington, D. C., who has repeatedly been of service to the society in its scientific study of Nebraska birds; Mr. Louis Sessions, a charter member and past President of the N. O. U., active until his removal to California and resignation in 1920; and Mr. John T. Zimmer, a member of the N. O. U. and a past President, now on the staff of the Field Museum of Natural History at Chicago. The Secretary-Treasurer reported that the approval of more than the necessary three-fourths of the members voting had been given to each of these names, and then gave the exact figures of the vote. On motion, the ballot as recorded by the Secretary-Treasurer was accepted, and the four persons nominated by the Executive Committee were declared elected to honorary membership in the N. O. U.

New business being in order, Mrs. H. C. Johnston of Superior, extended the invitation of the Nature Department of the Women's Club of Superior to the N. O. U. that the next meeting of the society, in May, 1925, be held at that place. After a brief discussion, a motion by Mrs. Addison E. Sheldon, seconded by Mrs. H. F. Hole, that the N. O. U. accept the invitation of the Nature Department of the Superior Women's Club as expressed by Mrs. Johnston was unanimously carried.

The approaching publication of the first part of the proposed "Birds of Nebraska" brought up the matter of adjusting the income of the N. O. U. from its annual dues so that it might more largely serve in the support of this project. Discussion revealed differences of opinion among the members present as to what would be the best policy. It was moved that the members think over the question for a time, and that within the next few weeks the Secretary-Treasurer send out a mail ballot covering this point to all members of the N. O. U., and that the future policy of the society be in conformity with this referendum vote. The motion was seconded and carried.

A communication from Mr. L. O. Horsky of Omaha, proposing action by the N. O. U. endorsing the proposal to make a wild fowl sanct-

uary of Carter Lake, near Omaha, was read by the Secretary-Treasurer and discussed by some of the members. The discussion brought out that on general principles the members of the N. O. U. favored movements creating bird sanctuaries, but that because of the peculiar location of Carter Lake and the apparent necessity of securing state funds to enable the success of the project, more information was desirable before definite action was taken by the N. O. U. No motion was made on this matter.

The auditing committee then reported that the financial report of the Secretary-Treasurer had been examined and found to be correct. On motion the report was accepted. The nominating committee then reported, suggesting that Dr. R. H. Wolcott and Professor M. H. Swenk be continued in their offices of President and Secretary-Treasurer, respectively, for the coming year, and that Mrs. C. W. McCaskill be elected to fill the office of Vice-President. On motion it was voted that the Secretary cast the unanimous ballot of the society for these officers. The officers for 1924 were then declared as follows:

President—Dr. R. H. Wolcott, Lincoln.
Vice-President—Mrs. C. W. McCaskill, Hastings.
Secretary-Treasurer—Prof. M. H. Swenk, Lincoln.

Sixteen members were present at this business session of the N. O. U., as follows: Mesdames Lily R. Button, Margaret M. Corey, E. A. Holbrook, H. F. Hole, H. C. Johnston, G. A. Loveland, L. H. McKillip, Mary St. Martin, Addison E. Sheldon and Fred W. Tyler, and Messrs. J. M. Bates, Charles K. Hart, M. H. Swenk, Leighton Williams, Leonard Worley and R. H. Wolcott. Later in the sessions Mesdames E. H. Polley and T. H. Wake, and Messrs. L. O. Horsky, Wilson Tout and L. H. Watson were present, making a total representation of twenty-one members at the meeting. Adjournment of the business session at 5:05 p. m.

Following the business session the members, accepting the invitation of Mr. F. C. Collins, visited the University of Nebraska Museum and examined the bird exhibits there, under the leadership of Mr. Collins. Following this the members again reassembled at 6:30 p. m. at the Grand Hotel, 12th and Q Streets, for the quarter-centennial anniversary dinner. Fifty-nine persons, including members of the N. O. U. and of the Bruner Bird Club of Lincoln, and their guests, sat down to this dinner. Appropriate menu cards and the program of the evening had been printed and were distributed at each plate.

Following the dinner, at 7:45 p. m., a symposium was held on the subject, "Sounds and Songs of Nebraska Birds." Dr. R. H. Wolcott explained the structure of the vocal organs and other sound-producing organs of birds; Prof. M. H. Swenk explained the emotional meaning of bird utterances and the theories of the origin and development of bird songs; and Mrs. Lily R. Button explained the value of musical notation in recording bird songs, giving a number of illustrations. The symposium was concluded at 9:40 p. m. Dr. R. H. Wolcott then concluded the program with his President's address on the subject, "Ornithology in Nebraska," in which he gave a review of the twenty-five years of activity of the society, explaining its organization and the various crises and phases of development it had gone through. At the conclusion of the President's address announcement of the plans for the field day on Sat-

urday, May 10, were made, and an invitation from the Nebraska Audubon Society for the members of the N. O. U. and Bruner Bird Club to join with them in their annual field day on Saturday, May 17, was aslo read. Final adjournment at 10:15 p. m.

On Saturday, May 10, the twenty-second annual field day of the N. O. U. was held. One party started for Capital Beach at 6:00 a. m., and another party followed at 8:00 a. m. Other parties visited the marshes near Arbor, the woods along Salt Creek and Wyuka cemetery. The field day was a decided success in spite of the cool and threatening weather that prevailed during the greater part of the day, for by the end of the day 121 kinds of birds had been identified by members of the various parties, thus forming the largest list of birds as yet secured on a field day of the N. O. U. About forty persons participated in the various field parties. The comoposite list of the day follows:

Bluebird, Robin, Olive-backed Thrush, Gray-cheeked Thrush, Wood Thrush, Blue-gray Gnatcatcher, Long-tailed Chickadee, Tufted Titmouse, White-breasted Nuthatch, Long-billed Marsh Wren, Western House Wren, Brown Thrasher, Catbird, Redstart, Maryland Yellow-throat, Oven-bird, Black-poll Warbler, Myrtle Warbler, Yellow Warbler, Tennessee Warbler, Orange-crowned Warbler, Bell Vireo, Warbling Vireo, Red-eyed Vireo, Migrant Shrike, Rough-winged Swallow, Tree Swallow, Barn Swallow, Purple Martin, Scarlet Tanager, Dickcissel, Lazuli Bunting, Rose-breasted Grosbeak, Cardinal, Arctic Towhee, Towhee, Lincoln Sparrow, Song Sparrow, Western Field Sparrow, Clay-colored Sparrow, Chipping Sparrow, White-throated Sparrow, White-crowned Sparrow, Gambel Sparrow, Harris Sparrow, Lark Sparrow, LeConte Sparrow, Western Grasshopper Sparrow, Savannah Sparrow, Pine Siskin, Goldfinch, Bronzed Grackle, Baltimore Oriole, Orchard Oriole, Meadowlark, Western Meadowlark, Red-winged Blackbird, Yellow-headed Blackbird, Cowbird, Bobolink, Crow, Blue Jay, Saskatchewan Horned Lark, Traill Flycatcher, Phœbe, Crested Flycatcher, Western Kingbird, Kingbird, Chimney Swift, Nighthawk, Northern Flicker, Red-headed Woodpecker, Northern Downy Woodpecker, Hairy Woodpecker, Belted Kingfisher, Sparrow Hawk, Red-tailed Hawk, Marsh Hawk, Mourning Dove, Turnstone, Piping Plover, Semi-palmated Plover, Killdeer, Spotted Sandpiper, Western Willet, Solitary Sandpiper, Yellow-legs, Hudsonian Godwit, Sanderling, Semi-palmated Sandpiper, Least Sandpiper, Baird Sandpiper, White-rumped Sandpiper, Pectoral Sandpiper, Wilson Snipe, Avocet, Wilson Phalarope, Northern Phalarope, Coot, Sora, Virginia Rail, Black-crowned Night Heron, Bittern, Hutchins Goose, Blue Goose, Lesser Snow Goose, Ruddy Duck, Lesser Bluebill, Redhead, Pintail, Shoveller, Blue-winged Teal, Widgeon, Mallard, Red-breasted Merganser, White Pelican, Black Tern, Forster Tern, Franklin Gull, Pied-billed Grebe, and Eared Grebe.

At noon on Saturday the field parties assembled for lunch in Room 26 of the Home Economics Building of the University of Nebraska, at the College of Agriculture campus. The lunch was served cafeteria style, and just before starting out for the afteroon in the field the composite list stood at 96 species.

REPORT OF THE TREASURER, 1923-24

Receipts

Cash on hand, May 1, 1923	$ 40.89
Annual dues for 1923	60.00
Annual dues for 1924	36.00
Interest on investment	21.25
Sale of publications	3.13
	$161.27

Expenditures

Wilson Bulletin (1 active at $2.50 and 41 associates at $1.50)	$ 64.00
Postage, Office of Secretary	5.70
Balance on hand, May 1, 1924	91.57
	$161.27

HISTORY OF THE KENTUCKY ORNITHOLOGICAL SOCIETY

1923

Several bird-students from various parts of Kentucky met at the Seelbach Hotel in Louisville, Kentucky, on the afternoon of April 19, 1923, to discuss the plans for organizing a Kentucky Ornithological Society.

The Society was organized and the following officers were elected:

President: Dr. L. O. Pindar, Versailles.

Vice-President: Mr. Brache C. Bacon, Madisonville.

Secretary and Treasurer: Gordon Wilson, Bowling Green.

Plans were adopted to seek affiliation with the Wilson Ornithological Club. A membership campaign was planned.

It was agreed that the next meeting would be held in Louisville during the Spring meeting of the Kentucky Educational Association.

1924.

The first annual meeting of the Kentucky Ornithological Society was held in Leather Room of Seelbach at Louisville, Kentucky, at 9:30 a. m., April 25, 1924.

The present officers were re-elected.

Members of Executive Committees were elected as follows: Professor Frank L. Rainey, Centre College, Danville; Miss Emilie Yunker, Director of School Gardens, Louisville; Mr. J. B. Cox, Murray State Normal School, Murray; Mrs. Merit O'Neal, Louisville, Historian of K. O. S.

A fine program was rendered, those taking part being: Mr. Carl D. Herdman, Bowling Green; Mr. Ben J. Blincoe, Dayton, Ohio; Miss Yunker, Louisville; Professor Gordon Wilson, Bowling Green; Mrs. Merit O'Neal, Louisville; Dr. Pindar, Versailles.

The Constitution was read and adopted.

The Society voted to affiliate with the Wilson Ornithological Club under a specified agreement, the articles of this affiliation being perfectly agreeable to both parties.

The Society went on record as being opposed to the wanton destruction of crows and other birds, the wholesale slaughter of which had been reported by a member.

The ammunition companies were held responsible for this deplorable destruction.

A committee was appointed to devise plans for the celebration of Bird Day in the Schools of Kentucky, to be held in connection with Arbor Day.

MRS. MERIT O'NEAL,
Historian of Kentucky Ornithological Society.

PROCEEDINGS OF THE KENTUCKY ORNITHOLOGICAL SOCIETY

The first annual meeting of the Kentucky Ornithological Society was held at Louisville Friday, April 25, 1914, in the Leather Room of the Seelbach Hotel. Carl D. Herdman of Bowling Green gave a very unusual lecture on "Human Characteristics of Birds, or Birds as I Know Them." Mr. Herdman has spent several years making his suburban home a bird-paradise and knows birds as real personalities, Ben. J. Blincoe, Dayton, Ohio, Treasurer of the W. O. C., read an exhaustive study of "Birds of Nelson County", giving the records of his long period of years as a resident there. Mrs. Merit O'Neal of Louisville spoke on "Bird Study in the Public Schools" and advocated a Bird Day in the Schools. The society voted to petition the Governor of Kentucky to set such a day, to be celebrated in connection with Arbor Day. Miss Emilie Yunker, Director of School Gardens of Louisville, in speaking on "How School Children Make Friends with the Birds", told of the very successful hikes she has been conducting this year to Cherokee Park. Dr. L. Otley Pindar of Versailles gave an elaborate paper on "Bibliography of Kentucky Birds", reviewing especially the work of Alexander Wilson, Audubon, Pindar, Gordon Wilson, Bacon, Blincoe, and Beckham. Professor Gordon Wilson of Bowling Green told of his experiences in banding and showed several ways of keeping accurate and scientific records.

At the business session it was decided to hold the fall meeting at Bowling Green, on October 9 and 10. The evening of the ninth being given over to lectures and addresses, October tenth to be devoted to an early morning hike and outdoor breakfast, with two day-sessions. The society went on record as being opposed to the ammunition propaganda of the Du Pont Powder Company. The present officers were re-elected: President, Dr. L. Otley Pindar, Versailles; Vice-President, B. C. Bacon, Madisonville; Secretary-Treasurer, Professor Gordon Wilson, Bowling Green. Additional members of the Executive Committee are: Miss Emilie Yunker, Louisville; Professor Frank L. Rainey, Danville; and Mr. J. B. Cox, Murray. Mrs. Merit O'Neal, Louisville, was chosen Historian. In the first year of its existence the society has enrolled 12 affiliate members, 35 local members. The K. O. S. voted unanimously to affiliate with the W. O. C.

IOWA ORNITHOLOGISTS' UNION

First Annual Meeting—Held at Ames, Iowa, March 8, 1924

Our state organization, which is just one year old, held its first annual meeting at Agricultural Hall in Ames on March 8. The meeting was well attended and the very excellent program was carried out just exactly as it was announced.

The forenoon session consisted of reports by the various officers and the following papers:

1. Birds of Southwest Iowa, C. E. Butler, Atlantic.
2. What I See from my Back Window, Mrs. J. L. Adams, Ottumwa.
3. Bird Feeding and Nesting as Studied by the Boy Scouts, E. G. Stowell, Scout Executive of Ames.

The afternoon program started with a paper by Miss Althea Sherman of National, entitled "Down with the Wren Boxes." C. J. Spiker, New Hampton, followed Miss Sherman with a paper on "Recent Winter Bird Records for Northern Iowa." The five-minute open discussion on "My Most Interesting Bird Record in 1923" brought out several good observations, the one by Dr. Weeks of Emmetsburg, being especially notable. The paper of Carl Fritz Henning of Boone, on "The Ledges, the Ozarks of Iowa," was read by Dr. Weeks and was very good. This was followed by a paper by Miss Olivia McCabe of Des Moines, on "Birds of a City Marsh." The exciting number of the afternoon was the lecture by Professor Guthrie of Ames, on "Birds in Their Relation to Snakes." His lecture was illustrated very forcibly by a number of large live snakes, which he brought before us and handled with about the same ease that he would handle a kitten or any other pet. This was an entirely new angle of bird study rarely touched upon and was especially delightful after some of the audience had changed seats and had moved out of range of Professor Guthrie's pets.

The executive session which followed resulted in the election of the following officers for the ensuing year:

President—W. M. Rosen, Ogden.

Vice-President—Dr. T. C. Stephens, Sioux City.

Secretary—Mrs. H. M. Bailey, Sioux City.

Treasurer—Thomas H. Whitney, Atlantic.

Executive Council—Dr. Homer R. Dill, Iowa City; Dr. L. T. Weeks, Emmetsburg; A. J. Palas, Des Moines.

A number of business matters were then disposed of, the principal one being the unanimous vote of the members present to affiliate with the Wilson Ornithological Club and that as many members as possible of the I. O. U. become members of the W. O. C., since the Wilson Bulletin would keep us in closer touch.

Professor Charles R. Keyes of Mt. Vernon, then gave his lecture on "Some Iowa Great Horned Owls," which closed the afternoon session. This lecture was illustrated with lantern slides from photographs taken by Dr. Keyes.

The evening session was given over entirely to Dr. T. C. Stephens and Walter W. Bennett, both of Sioux City. Dr. Stephens first gave his lecture entitled "Two Bird Students on a Vacation Trip in Minnesota." Some very excellent slides were shown. The closing number was by

Mr. Bennett and was entitled "A Few Birds of the Itasca Lake Region." This was also illustrated by colored slides taken by Mr. Bennett last summer and showed many of the Warblers and other migratory birds on their nests in the northern pine woods. Some of the slides were of the natural color process. Iowa can certainly feel proud that we have such men as Bennett, Stephens, Keyes, and Weeks as platform men and lecturers in Ornithology, as they are entertainers worth going far to hear.

The membership during 1923, which was our year of organization, was over 100, and with the enthusiasm shown, I am sure that we will have a much larger membership before the next annual meeting. Iowa has a large number of bird lovers and we hope to build a strong organization and one which will be a credit to our state. Members, let's all boost for the I. O. U. and the W. O. C. W. M. Rosen, President.

PUBLICATIONS REVIEWED

ANIMAL LIFE IN THE YOSEMITE VALLEY

Grinnell, J. and Storer, T. I., Animal Life in the Yosemite, xviii plus 752 pages, 60 plates (12 in color), 2 maps (color), 65 figures in text. University of California Press, Berkeley, California, 1924. Buckram $7.50. Carriage extra. Weight, 5 lbs. 9 oz.

This is a book that combines in admirable fashion scientific description of characters and occurrence with accurate but pleasing description of habits. There is unmistakable evidence that the authors have made a thorough study of the region that is treated, and have been discriminating in their selection of the facts presented. The difficulties of identification of some of the forms here treated may be attested by the fact that no less than eight subspecies of fox sparrows are found in the region, and yet the work has been well done. The colored plates are done in Allan Brooks' careful and accurate manner, and the clearness of the impressions attest the care that was taken in the mechanics of printing. The same excellence extends throughout the treatment of the Mammals, Reptiles and Amphibians. We would like to see the same sort of intensive work done in other regions. L. J.

Publications of the Wilson Ornithological Club

The complete series consists of the following publications:

The Ornithologists and Oologists Semi-Annual, three volumes, 5 numbers.

The Wilson Quarterly, one volume, two numbers.

The Journal, two numbers.

The Wilson Bulletin, three numbers in the first volume, two in the second, six numbers in each of the next four volumes, and four numbers in all succeeding volumes including the current volume–34.

Out of print numbers of this entire series are as follows:

Semi-Annual, Vol. 1, No. 1; Vol. 2, both numbers.

The Wilson Quarterly, both numbers.

The Wilson Bulletin, Vol. 10, No. 5; Vol. 16, No. 1.

The available numbers, to Vol. 32, will be sold at the rate of one dollar a volume.

— ADDRESS —

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